University of Alberta

COMPONENTS OF INTERPROFESSIONAL HEALTH CARE TEAM FUNCTIONING

by

Lynette Sylvia Jans Lutes ©

A thesis submitted to the Faculty of Graduate Studies and Research in partial fulfillment of the requirements for the degree of Doctor of Philosophy

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DEDICATION

To my grandparents, Violet and Jacob Treiber,

for your love, support and encouragement.

ABSTRACT

Interprofessional health care teams have received growing attention and interest, as there has been an increasing need to examine how health care services are delivered. Although health care teams have been seen as a favorable service delivery model, it has been difficult to establish a clear understanding of the critical components necessary for their functioning. There have been many articles and books written about the topic of teams, however inconsistent views, inaccurate assumptions and differing expectations have been evident. Health care organizations and health care practitioners involved in this new type of practice have had to deal with non-existent or incomplete knowledge regarding team-based service.

To better understand interprofessional team functioning, the preliminary stages of a construct-oriented approach were used to develop a sufficient description and adequately define the critical components necessary for interprofessional team functioning. Five interprofessional health care teams were asked to participate in semi-structured interviews to provide an enriched understanding of interprofessional team functioning. The findings of this study were compared with previous literature, including research findings, and a model of interprofessional health care team functioning was eventually developed. This model provided a visual representation of five themes (dynamism, centrality of patient and family, cognitive aspects, social and affective aspects, and operational and structural aspects) that were generated. The results of this study led to an improved understanding of the knowledge, attitudes, skills, behaviours and relationships that team members needed to possess, and the circumstances that needed to prevail, in order for a group of individuals to function as a team. In addition to a better understanding of interprofessional team functioning, a

preliminary framework was initiated for developing an assessment instrument for measuring team performance.

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CHAPTER ONE: INTRODUCTION

This chapter consists of three sections. The first section describes the events that led to the development of the topic area. The second section deals with background information and rationale for exploring interprofessional health care team functioning. The third section outlines the problem and statement of purpose.

Coming to the question

During my course of studies with the Faculty of Rehabilitation Medicine, I was employed as a graduate assistant to spearhead a pilot project regarding clinical field placements. The intent of the pilot project was to simultaneously place four or five health science students within one health care organization. This type of student team placement previously had never been offered at the University of Alberta. Prior to the initiation of the student team placement pilot project, a classroom-based course had been developed to promote understanding of interprofessional teamwork. Students from several disciplines were placed in small groups and problem-based learning using health care scenarios was utilized to help students learn about the different disciplines, form interrelationships and develop ongoing collaborations. While being employed as a graduate student, I was approached by the Executive Director of the Health Sciences Council to assist in designing an assessment instrument to measure students' understanding of the essentials of interprofessional teamwork acquired during the classroom-based course. It was at this point that I began to question what were the essentials of interprofessional health care teams and what were the critical skills that students needed to acquire in order to function on a team. The faculty members who had developed the course had derived eleven competencies for effective teamwork from a document titled Developing Health Care Teams: A Report by the Academic

Health Center Task Force on Interdisciplinary Health Team Development (Gardebring, et al., 1996). The eleven competencies were as follows: demonstrating a client-centered focus, establishing common goals, understanding the role of each profession, showing flexibility in roles, demonstrating confidence in other team members, sharing expectations of team norms/rules, effectively resolving conflict, communicating effectively with other team members, sharing responsibility for team actions, giving and receiving feedback, and making team decisions effectively. While these eleven competencies had been accepted at the University of Alberta as the key skills that students needed to acquire to adequately function on a team, it seemed necessary to conduct a preliminary literature review to discover whether this list of competencies was complete or whether other critical components were required for interprofessional team functioning. It also seemed necessary to determine whether assessment instruments were readily available to measure these identified competencies. As a practicing speech-language pathologist I had experienced a number of different types of teams, but I was unsure whether these eleven competencies captured the necessary knowledge, skills, attitudes, behaviours, relationships and circumstances that team members required to function on a health care team.

The preliminary literature review revealed that there were numerous articles and a number of books published regarding critical issues related to team performance. There appeared to be a plethora of theories, personal opinions and a collection of isolated facts about team behaviours and functions, but empirical data regarding interprofessional teamwork was lacking (Drinka & Clark, 2000; Ducanis & Golin, 1979; Lowe & Herranen, 1981). The phenomenon of interprofessional health care teamwork seemed to have been based on a wide variety of sources, such as psychology, sociology and business, and some of the information then had been applied to the health care team process (Ducanis & Golin, 1979). This has led to a great deal of discussion about certain aspects of teams, such as organizational structure, interpersonal characteristics, interprofessional interactions and team development processes. However, there has been no clear agreement or understanding regarding the design and implementation of teamwork (Ducanis & Golin, 1979; Lewis et al., 1998). Health care practitioners have been left to operate on the basis of a notional consensus about interprofessional teamwork (Barr, 1997). The various notions of teams have led to discrepant perceptions and imprecise thinking about health care teams. The implementation of interprofessional teamwork has been difficult to understand and even more difficult to achieve in practice (Baldwin, 1996). A clear understanding of the necessary components for interprofessional team functioning did not seem evident. The next section will review some background information and the rationale for further exploring the topic of interprofessional team functioning.

Background and rationale

Interprofessional teamwork within health care organizations has attracted a resurgence of interest over the past decade based on the growing awareness of the inadequacies of the health care system (Baldwin, 1996). Federal and provincial governments have expressed the need to re-examine how health care services are funded and delivered. Two commissioned reports, Caring for Medicare: Sustaining a Quality System (Government of Saskatchewan, 2001) and A Framework for Reform (Government of Alberta, 2001), indicated that the current health system is not sustainable unless major changes are made to the manner in which services are funded and delivered. Reference was made in both reports for the need to have health care practitioners practice together in teams to provide the services that people need. The increasing complexity of health issues, declining availability of health care practitioners, fragmented health care, poor distribution of health care resources, and escalating health care costs have resulted in the need to re-examine health care practices, and to re-focus on teamwork and collaboration as a means of meeting some of these challenges (Barr, 1997; Drinka & Clark, 2000; Lowe & Herranen, 1981; Klein, 1990; Manion, Lorimer & Leander, 1996).

In addition to the challenges mentioned above, there has been an increasing complexity of knowledge and skills required by health care practitioners to provide comprehensive care to patients. This has resulted in increased specialization among the various health practitioners, and the recognition that no one health care practitioner can adequately possess all of the expertise required to care for patients and families in this technical and specialized health care system (Hall & Weaver, 2001; Lowe & Herranen, 1981; Rush & Shelden, 1996). Patients also have been asking to receive comprehensive services without having to be referred to a series of different health care practitioners. Given that patients appear to prefer being seen by a team of health care practitioners (Government of Alberta, 2001), interprofessional teamwork has become a delivery choice for providing the services that patients need.

Although health care organizations have adopted an interprofessional teamwork approach to provide comprehensive services there have been barriers, and progress in the area has been slow (Baldwin, 1996; Government of Alberta, 2001). It seemed logical that bringing together a variety of health care practitioners with diverse skills and expertise and having them work together would result in a better quality of patient care than the cumulative effects of the discrete performance of individual practitioners (Bloom & Parad, 1976; Heinemann, Schmitt, Farrell & Brallier, 1999). However, this has resulted in health care organizations and practitioners being involved in a new type of practice where the underlying knowledge required for this type of integrated service was either non-existent or incomplete. In addition to the knowledge required to practice adequately in a team environment, there appeared to be an over-familiarity with the concept of teams. Consistent standards, requirements and limitations of teamwork have not been established (Lowe & Herranen, 1981). There seemed to be a lack of understanding regarding what an interprofessional team or teamwork really was, and varying viewpoints about the topic were held among the various health care disciplines. For example, some health care practitioners viewed teamwork as a collaborative experience that would improve patient care, while other practitioners viewed teamwork as a segregating experience and difficult to practice. The differing expectations for interprofessional teamwork and lack of knowledge or standards has resulted in health care providers being unclear about their roles, responsibilities and functions on a team (Lowe & Herran, 1981).

Interprofessional teamwork has been promoted as the approach of choice for achieving improved patient outcomes, however it has been difficult to establish the necessary team processes, activities, strategies, responses and behaviours required (Cannon-Bowers & Salas, 1997). For example, Bukowski, Banvolonta, Keehn and Morgan (1986) indicated that teamwork required only three elements, namely mutual respect and understanding among team members, ongoing coordination of efforts, and open communication. Other authors, such as Gage (1998), Gordon et al. (1996), Headrick et al. (1996), Laatsch, Milson and Zimmer (1986), Miccolo and Spanier

(1993), and Slack and McEwen (1993), described many characterisfics needed for teamwork, including the following: trust, respect, negotiation, compromise, diplomacy, flexibility, listening skills, effective communication skills, understanding and acceptance of each others' expertise and roles, understanding of others' scopes of practice, willingness to exercise judgement and authority in their own realm of expertise, willingness to share responsibility, and willingness to make decisions and determine goals jointly. These differing views illustrated a wide range in the number of key characteristics viewed as necessary for team functioning, and no consensus has been reached regarding the necessary components for interprofessional team functioning. Many of the identified characteristics or concepts have been regarded as fundamental elements of team practice, but few have been explored conceptually or empirically. There seemed to be some understanding of the critical attributes of an interprofessional health team and some of the processes involved. A clear understanding of how interprofessional health care teams function and why certain activities, responses, strategies or behaviours were critical remained inadequately described.

Aside from being unclear about the knowledge, skills, attitudes, behaviours, relationships and circumstances required for interprofessional team functioning, most of the studies were limited to a small number of professional groups (e.g., physician-nurse relationships, physician-nurse-health administrator relationships) (Beatty, 1987; Hojat & Herman, 1985; Stein, Watts & Howell, 1990). These studies did not include other health professional groups (e.g., pharmacy, social work, audiology, occupational therapy, physical therapy, respiratory therapy, recreational therapy or speech-language pathology) or only referred to the health care professional based on their role, rather than the critical components required for team functioning (Bukowski, Bonavolonta, Keehn & Morgan, 1986). Therefore, it seemed imperative to further explore interprofessional health care team functioning from the perspectives of a number of different disciplines, including speech-language pathology, occupational therapy and physical therapy.

Problem and statement of purpose

While interprofessional health care team practice has become a service delivery option for providing care to patients with complex problems, team members have been left to operate on the basis of a notional consensus about team functioning. Within the research findings, there appear to be inconsistent views, inaccurate assumptions, and differing expectations about the topic. Although interprofessional team practice has become an accepted method of providing patient care and many universities are attempting to prepare students to become health care team members, research findings and the investigator's own experiences have shown that there does not appear to be a clear understanding of the critical components of interprofessional health care team functioning.

This research project was designed to uncover a clearer understanding of the construct of interprofessional health care team functioning. Interprofessional health care team functioning can be conceptualized as an overarching construct made up of a number of basic constructs. To better understand the construct of interprofessional health care team functioning, it is necessary to begin a validation process using a construct-oriented approach, bearing in mind that an overarching construct may be made up of a number of basic constructs. According to Cronbach and Meehl (1955), a construct is a psychological trait, characteristic or ability of people. Some examples of basic constructs include problem-solving, mutual respect, consideration for colleagues, and setting goals, which might combine to form an overarching construct such as leadership. Although constructs originate as abstract and latent variables, they may be manifested through performance or behaviour that is observable, meaningful and measurable. In the case of interprofessional health care team functioning, behaviours may be measured by having team members respond to questions, provide self-ratings, or having an observer record interactions among team members.

In order to specify behaviours that were observable, meaningful and measurable, a construct-oriented approach was followed in this study. The first requirement of the construct-oriented approach includes developing a clearer description and definition of the construct, at both the theoretical and empirical levels (Benson, 1998; Kraiger & Wenzel, 1997). Observations combined with previous research were used to accomplish this first requirement. The second requirement is to identify a nomological network of the interrelationships between the construct of interest and other constructs (Cronbach & Meehl, 1955). This will require the development and testing of hypotheses between measures of the construct of interest and measures of other constructs, some of which purport to be measuring the same or similar behaviours, and others that measure behaviours having little in common with the construct of interest. For example, it is necessary to establish the conditions under which a measure of interprofessional team functioning would and would not account for team performance. The third requirement is to develop hypotheses about the construct of interest at the measurement level and test the hypotheses one at a time (Benson, 1998; Cronbach & Meehl, 1955; Kraiger & Wenzel, 1997). This approach specifies the meaning of the construct of interest, describes its components, and lists the features of the construct that distinguish it from other constructs. Fortunately, the construct of interprofessional health care team functioning does not need to be developed from the very beginning. A body of literature regarding various aspects of this construct already exists, but it is composed mostly of opinions from a limited number of health care disciplines and a lack of consensus among descriptions of team functioning. There is a need to better understand the construct of interprofessional health care team functioning and to ground that understanding in data. This research was designed to be the first step in that process.

Clarification of terms

In beginning the journey of uncovering the components of interprofessional team functioning, it was found that the terms used within the literature varied greatly. It seemed that a continuum had evolved regarding team intervention services for patients, ranging from multidisciplinary, to interdisciplinary, to transdisciplinary teams. Multidisciplinary teams are at one end of the continuum where health care practitioners are working independently on a patient's problem, while transdisciplinary teams are at the other end of the continuum where health care practitioners are working in an integrated approach toward the intervention of health care problems. It seemed that as researchers shifted their attention from one type of team to another, there has been an inconsistent understanding of interprofessional health care teams (Schmitt, 1982). The shift from one descriptor to the next is based on the trends in the literature, and "interdisciplinary" or "interprofessional" seem to be the current terms of choice. An integrated approach to patient treatment was suggested within the literature and health care settings in order to ensure improved outcomes. The terms "interdisciplinary" or "interprofessional" implies a shared willingness to give up exclusive claim to specialized knowledge and authority in an effort to meet patient needs. The two terms "interdisciplinary" and "interprofessional" seem to be used interchangeably within some research articles. "Interdisciplinary" is used indiscriminately throughout the literature and is used when referring to academic situations, while "interprofessional" is used when referring to the collaboration of practicing health care professionals. "Interdisciplinary" appears within the American literature, whereas "interprofessional" appears more frequently in manuscripts from the United Kingdom (Baldwin, 1997).

The term "team" has been used in a variety of ways. Numerous adjectives have been paired with team, such as "multidisciplinary", "interdisciplinary", "interprofessional" and "transdisciplinary". This has added to the difficulty in understanding the type of team actually being described. For the purposes of this manuscript, the term "interprofessional team" will be used to represent a group of practitioners who come together to provide health care services.

Within the literature, there were various descriptions of people working together on a variety of teams such as geriatric, palliative care, stroke and cardiac surgery teams. These teams were generally described in terms of their size and composition of disciplines. For example, the stroke team at a rehabilitation hospital would likely be composed of a physician, nurse, occupational therapist, physical therapist, pharmacist, psychologist, social worker and speech-language pathologist. It was recognized that the composition of the interprofessional team was critical to ensure quality intervention, however this manuscript will not propose the type of disciplines that should be represented on a team.

CHAPTER TWO: LITERATURE REVIEW

This chapter consists of five sections. The first section reviews some definitions and provides a brief historical overview of teams. The second and third sections describe the various components and assessments that have been delineated in previous articles and reports. These three sections provide background information and support for the need to begin to clearly understand the overarching construct of interprofessional health care team functioning. The fourth section provides an overall summary and the fifth section outlines the research questions of the current study.

Definition of teams and historical overview

Definitions of a team approach

According to Webster's New Collegiate Dictionary (1980), "team" is defined as "a number of persons associated together in work or activity." The idea that all it takes to form a team is bringing a group of people together has led to overgeneralization of the team concept. Drinka and Clark (2000) indicated that the word "team" has become a catchword for describing a group of people who come together to work in some capacity (e.g., sports team, health care team, project team). Schmitt (1982) indicated that there was a need for a clear definition of "team", and certain minimum characteristics must be identified so that one can say when there is a team in existence and when there is not. Brill (1976) attempted to provide a definition that created a framework of the general principles basic to teamwork. The definition was:

> A team is a group of people each of whom possesses particular expertise; each of whom is responsible for making individual decisions; who together hold a common purpose; who meet together to communicate, collaborate, and consolidate knowledge, from which plans are made, actions determined and future decisions influenced (Brill, 1976, p. 22).

In pursuit of clarifying the terminology around teamwork, Ducanis and Golin (1979) defined a team as: "a functioning unit composed of individuals with varied and specialized training who coordinate their activities to provide services to a client or a group of clients" (p. 3). Another common definition of "team" referred to the interaction among a group of individuals for the purpose of achieving an outcome (Dyer, 1987). A team also may be defined as having two or more people with a specific performance objective or recognizable goal to be attained (Larson & LaFasto, 1989). From the business literature, a team was defined as "a small number of people with complementary skills who are committed to a common purpose, performance goals and approach for which they hold themselves mutually accountable" (Katzenbach & Smith, 1993, p. 45). Manion, Lorimer and Leander (1996) adapted the definition from Katzenbach and Smith and applied it to the health care field. Their definition of a team was:

> a small number of consistent people committed to a relevant shared purpose, with common performance goals, complementary and overlapping skills, and a common approach to their work. Team members hold themselves mutually accountable for the team's results or outcomes (Manion, Lorimer & Leander, 1996, p. 6).

The early intervention literature provided another definition of a team:

> composed of competent clinicians who adopt program philosophy, understand procedures and participate in team development while demonstrating a high level of flexibility, role release/acceptance, trust, and respect (Antoniadis & Videlock, 1991, p. 164).

Drinka and Clark (2000) defined an interdisciplinary health care team (IHCT) as follows:

> An IHCT integrates a group of individuals with diverse training and backgrounds who work together as an identified unit or system. Team members consistently collaborate to solve patient problems that are too complex to be solved by one discipline or many disciplines in sequence. In order to provide care as efficiently as possible, an IHCT creates formal and

> informal structures that encourage collaborative problem solving. Team members determine the team's mission and common goals; work interdependently to define and treat patient problems; and learn to accept and capitalize on disciplinary differences, differential power, and overlapping roles. To accomplish these they share leadership that is appropriate to the presenting problem and promote the use of differences for confrontation and collaboration. They also use differences of opinion and problems to evaluate the team's work and its development.

In the definitions reviewed above, it can be seen that the number of descriptors used to define interprofessional team functioning varies greatly. For example, some of the definitions refer to team members developing common purposes, while other definitions refer to team members providing services to clients or groups of clients. Some definitions refer to collaboration, while other definitions do not include collaboration as an important element. It seemed that there was limited congruence among the various definitions. Another difficulty with these various definitions is the use of commonly used terms, such as coordination, commitment, trust, or mutual accountability. These terms are often thought to be commonly understood, but they may actually create disparate views among health care providers and administrators. They may cause misunderstandings and difficulty by being imprecise, lacking specificity, or having several connotations, thus making it difficult to establish a successful interprofessional health care team.

Team service delivery models

In addition to the various definitions of the team approach, there have been a number of team-oriented service delivery models proposed in the literature (Drinka & Clark 2000; Hall & Weaver, 2001; Wetherby, 1992). Health care teams have been described as multidisciplinary, interprofessional and transdisciplinary. "Multidisciplinary" implies that several health care disciplines focus independently on one problem or patient. Within this service delivery model, the focus is discipline-centered (Wetherby, 1992). "Interdisciplinary" or "interprofessional" implies a level of collaboration that requires sharing knowledge and job responsibilities for improved patient outcomes (Lilley, Clay, Greer, Harris & Cummings, 1998). Baldwin (1997), in his address to the Annual Meeting of the Association of Academic Health Centers, stated that "interdisciplinary" tends to be overused and misused. His interpretation of "interdisciplinary" was that it carries the concept of cooperation to a level of true collaboration. Teams integrate their individual contributions in a manner designed to produce new solutions and work in a fluid, flexible and egalitarian manner. Baldwin suggested that "interdisciplinary" should be reserved for reference to academic training and "interprofessional" for reference to clinical forms. "Transdisciplinary" requires a more integrated approach to the assessment and intervention of client problems (Antoniadis & Videlock, 1991). In a transdisciplinary team model, individuals do not conform to traditional discipline boundaries, rather they share similar work duties (Maple, 1987).

Unfortunately, the interchangeable use of these terms to refer to teams has added to the difficulty in clearly understanding interprofessional team functioning. There seems to be a lack of evidence regarding the necessary components for team functioning and how team members should be organized in order to provide appropriate patient care services.

Historical overview

The development of the team approach to respond to human problems is not new. A team approach to patient care has been evident since the early part of the century (Baldwin, 1996). A resurgence of interest has occurred in the past decade regarding interprofessional health care team practice. It has been recognized that many benefits can be attributed to teamwork, such as new and expanded roles for practitioners, comprehensive delivery of care and better integration and continuity of care. However, team delivery has been met with many barriers (e.g., administrative resistance, protected disciplinary boundaries), and it has been difficult to get many of the reports regarding interprofessional initiatives published in established discipline-specific journals. Therefore, the lessons that could have been learned from past experiences seemingly have been rediscovered by each new generation (Baldwin, 1996).

Initially, "team" referred to similar workers coming together to perform a function, however as specialization occurred it became evident that some activities or functions could be accomplished better by a specialized division of labour (Casto & Julia, 1994). Barker (1922) made the first reference to "team" in a medical care article. He discussed the need for teamwork in order to bring the different medical specialists together to provide the best medical knowledge for clients. Specialization was occurring in medical practice, resulting in a lack of coordination between the specialists and general practitioners and a lack of integration of medical findings. Although this early reference was limited to a single profession, Barker (1922) described the various physician team members as being differentiated from each other by their special training and unique contributions to the care of a patient. A new and different skill set was required to get these specialized physicians and general practitioners to work together (Janosik & Phipps, 1982). Brown (1982) cited the work of Cabot in the early part of the century who wrote about the teamwork of the doctor, educator and social worker in a Massachusetts General Hospital outpatient department as another early example of teamwork. Brown also indicated that the concept of teamwork was perceived as a means of achieving professional acceptance for nursing and allied health.

Baldwin (1996) indicated that in 1948 Martin Cherkasky at the Montefoire Hospital in New York City reportedly developed teams of physicians, social workers and nurses to provide home care services to patients in the local communities. However, Ducanis and Golin (1979) reported that team approach was prominent in child guidance centers long before 1940, and they indicated that World War II provided a major impetus for the idea of teams. The need for medical and surgical teams was clearly demonstrated during the war, and a number of specialty teams were formed afterwards in the area of burns, surgical, mental health and long-term care (Baldwin, 1996).

During the 1950s, the term "team" was applied to rehabilitation (Whitehouse, 1951). In the field of rehabilitation, there was a developing awareness that disability affected the whole person. The social, psychological, vocational and physical rehabilitation needs of the individual had to be considered. Physical therapists, prosthetic specialists, vocational counsellors, social workers and others were organized into multidisciplinary teams (Janosik & Phipps, 1982).

The early 1970s saw the emergence of interprofessional teamwork. Interprofessional teams differed from single-discipline teams and multidisciplinary teams, in that they involved the interaction of a variety of disciplines around a common goal that required complex integration or synthesis of different disciplinary perspectives (Casto & Julia, 1994).

In the past decade, the recognition of the inadequacies of the current health care system and a growing need to examine new service delivery models has prompted a resurgence of interest in interprofessional education and practice (Baldwin, 1996). There has been a new thrust towards the development of interprofessional health care teams. The team concept has emerged in the health care field as well as in other fields. Areas such as psychiatry, psychology, communication, sociology, social work and education have given attention to the study and understanding of how and why groups work. These descriptions have developed into theoretical frameworks in order to systematically understand group functioning (Casto & Julia, 1994). While each of these areas has contributed to understanding group work and the study of group behaviour has produced information about the function and process of groups, the applicability of interprofessional health care team functioning has not been adequately addressed. Unfortunately, much of the research regarding interprofessional health care team functioning has been limited and disorganized (Ducanis & Golin, 1979; Lowe & Herranen, 1981). The definitions and terminology used to describe team functioning have been inconsistent. It has been difficult to compare studies, and this has limited the ability to expand the knowledge regarding teamwork and formalize an integrated construct of interprofessional health care team functioning (Baldwin, 1996; Ducanis & Golin, 1979; Drinka & Clark, 2000).

In the next sections, the various components of team functioning and the assessments that have been developed will be reviewed.

Components of the team approach

As indicated above, various disciplines have studied how and why groups work, and some of this research has been applied to the health care team process. Each particular perspective has developed a different set of components to be used in the analysis of team functioning (Casto & Julia, 1994). This has resulted in a reliance on several different frameworks to understand and analyze teamwork. This reliance on different frameworks may be viewed as an eclectic approach that allows for greater flexibility and freedom to understand and analyze teamwork. Individuals may select concepts and principles from multiple perspectives to predict or explain team phenomena. However, this eclectic approach has led to a "morass of variables" that makes it particularly difficult to identify the critical variables for team functioning (Casto & Julia, 1994).

In an attempt to organize the variables that have previously been described in the literature, this investigator has divided the variables into social process components and cognitive process components. The social process components section reviews the various findings that have focused on behaviours and psychosocial aspects of teamwork. The cognitive process components section expands the focus from behavioural or psychosocial aspects to include cognitive elements of team functioning. The idea of shared mental models is introduced, however this construct essentially has been discussed only in the business literature (Madhavan & Grover, 1998) and in the applied psychology literature (Kraiger & Wenzel, 1997).

Social process components

A great deal has been written about the behavioural or psychosocial aspects of teamwork (Casto & Julia, 1994; Horowitz, 1970; Likert, 1961; Manion, Lorimer & Leander, 1996). Again, the literature including research findings comes from a variety of disciplines, and there does not appear to be any consensus regarding the critical components needed for team functioning. There does not appear to be any organizational structure applied to the investigation of critical components of team functioning. Some studies have focused on the team as collective, while other studies have attempted to focus on the individual members of the team. This has made it very difficult to define interprofessional team functioning and its necessary components. Another difficulty arises from the use of common terms such as communication, collaboration and respect. There appears to be the assumption that these terms are understood, however this is likely not the case as the terms are imprecise, lack specificity, and may have several connotations or different meanings for individuals.

The following information provides an overview of the vast array of findings regarding the critical components of team functioning. The first two references, Horowitz (1970) and Brill (1976), are examples of researchers who focused on the individual team member. Horowitz (1970) suggested that the effectiveness of a team is influenced by the individual team member and the images that the individual subsequently discloses. The four images included were the individual's personal and professional images, the expectations they had of their own profession in the particular setting, an understanding of the skills and responsibilities of their colleagues, and a perception of their colleagues' image of them. Brill (1976) described seven different frames of reference that would influence the individual team member. The seven references were self-image, value and attitudes, behaviour patterns and norms, latent characteristics, reference groups, generalist knowledge and skill, and specialist knowledge and skill. From these two references, it can be seen that there was limited agreement regarding the necessary behaviours for an individual member on a team and exactly how those behaviours would be achieved or implemented within the team environment.

The next set of references refer to studies of the team as a collective and the various components or characteristics that were identified as being critical. McGregor

(1960) outlined 11 components of teamwork: relaxed atmosphere, discussion among members, clear shared goals, members listening to each other, presence of disagreement, consensus building, constructive criticism, few "hidden" agendas, clear and accepted assignments, shared leadership, and examination of group process. Likert (1961) described 24 characteristics for effective group work. Many of the components were similar to those outlined by McGregor, but Likert emphasized group loyalty, confidence and trust among members, mutual respect and support among members, belief that the group can achieve the impossible, and effective leadership. Rubin and Beckhard (1972) reported that the effectiveness of a group in any organizational setting was dependent upon two components, the capabilities of the group to do the work, and its ability to manage itself as an interdependent group of people. Rubin and Beckhard delineated six items that influenced team functioning: goals or tasks of the team, role expectations: internal and external, decision-making process, communication patterns, leadership, and norms.

Shea and Guzzo (1987) took a more parsimonious approach and chose to forego many of the described characteristics. They argued that only three fundamental variables were relevant to teamwork: task interdependence, outcome interdependence, and potency. Task interdependence related to the opportunities during which team members interacted in the pursuit of a goal. Outcome interdependence involved the extent to which members shared in the consequences of the team functions. Potency related to the belief team members held regarding their ability to complete the task.

Firth-Cozens (1998) combined the work of Guzzo and Shea (1992) and West (1996) to develop the ideal characteristics of a team. Guzzo and Shea indicated that a team must have clearly defined tasks and team objectives, members needed to have unique and meaningful tasks, performance of individual team members needed assessment and feedback, and regular feedback on the team's success was required. West (1996) added two other requisites: reflexivity (the ability to change) and experiencing full participation.

Katzenbach and Smith (1993) identified the following as important components of effective teams: common purpose, agreed-upon performance goals, common approach for the work, complementary skills, and mutual accountability. Larson and LaFasto (1989) identified the following: a clear elevating goal, results-driven structure, competent members, unified commitment, collaborative climate, standards of excellence, external support and recognition, and principled leadership. Casto and Julia (1994) indicated that communication, values and norms, roles, leadership, decision-making, and conflict resolution were variables that most affected the process of interaction and team functioning.

In an effort to consolidate the various identified components of team functioning, Rush and Shelden (1996) organized the contributions from the various perspectives on effective teamwork into three factors: environmental (situational) characteristics, team (group) characteristics, and individual characteristics. The interrelationship among these characteristics was believed to influence the effectiveness of the team. The key environmental elements necessary were a strong theoretical base, effective policies and procedures, clear measurement of intervention targets, appropriate clinical tools, observation and feedback mechanisms, prescriptive supervision and training, and participatory validation. Team characteristics included common goals, open communication, trust, respect, clear roles, consensus decision-making, presence of disagreement and constructive conflict resolution, balance of task/relationships, process/content, participation, cooperation, collaboration, leadership, flexibility, caring and commitment. The individual characteristics that may be brought to the team were expertise/competence, personality traits, attitudes, flexibility, interpersonal skills, self-concept, values, beliefs, communication skills, enthusiasm, energy level, mechanisms for conflict resolution, and individual commitment to group process. Rush and Shelden (1996) then validated these various factors critical to team functioning. They selected an early intervention team (resource coordinator, speech-language pathologist, child guidance specialist, nurse, physical therapist, occupational therapist and regional coordinator) and used question prompts to initiate the team's discussion on characteristics of effective team functioning that were found in the literature. Seven major areas or tenets critical to effective team functioning were highlighted. These tenets were a common philosophy, trust, communication, role release, relationships, expertise as individuals, and conflict resolution.

As can be seen from these examples, there has been a broad range of identified components of interprofessional team functioning, which has made it extremely difficult to understand which components are necessary for team functioning.

In addition to listing critical characteristics of team functioning or attempting to organize the various variables into different factors, some authors have attempted to organize the vast array of components into theories or models. For example, Ducanis and Golin (1979) attempted to consolidate the "motley collection of isolated facts about team behavior" and formulate a "theory of teamwork". Ducanis and Golin suggested some of the major dimensions of the interprofessional team concept and moved towards a theory of interprofessional teams. To further clarify the interprofessional team approach and reach some form of consensus about the attributes common to all teams, Ducanis and Golin (1979) described nine characteristics that could be identified and divided into three main categories: composition, function and task. The composition characteristics were that a team consists of two or more individuals, there may be face-to-face or non face-to-face configurations, and there is an identifiable leader. The function characteristics were that teams function within and between organizational settings, roles of participants are defined, teams collaborate, and there are specific protocols of operation. The task characteristics were that the team is client-centered and the team is task oriented.

Antoniadis and Videlock (1991) developed a transactional model of team functioning and identified several environmental components that facilitated team effectiveness, such as a strong theoretical basis, which was understood and adopted by team members, clear measurement of intervention targets, use of appropriate clinical tools, effective procedures and policies, observation and feedback mechanisms, prescriptive supervision and training, and participatory validation. Within this model, there also were individual clinician characteristics. These characteristics included role release/acceptance, common knowledge base, trust/respect, learner/teacher, risk taking, and clinical competence. Based on this model, the interaction of the environment and clinician characteristics affected team functioning.

This section presented some examples from the existing literature regarding the social process components of interprofessional team functioning. Again, one of the apparent difficulties in developing an understanding of interprofessional team functioning is the variety of different perspectives that have been used to advance the understanding of interprofessional team functioning. The authors identified above come from a number of different areas, such as business, applied psychology and health care. An overarching model or theory has not been developed that integrates the different perspectives and clearly identifies the necessary components for team functioning. The previous literature lacks conclusive evidence regarding what constitutes an interprofessional health care team and the components necessary for its functioning.

Cognitive process components

The following section describes some research findings based on attempts to move beyond the behavioural and psychosocial aspects of teamwork and to consider how cognitive aspects may influence interprofessional team functioning. The notion that both behavioural and psychosocial aspects and cognitive aspects influence successful team functioning has been studied primarily in the areas of business and applied psychology (Kraiger & Wenzel, 1997; Madhavan & Grover, 1998). Researchers in the area of health care have discussed the need for cognitive maps (Drinka & Clark, 2000), but there has not been consistent recognition or application of cognitive components within interprofessional health care teams.

Madhavan and Grover (1998) explored how teams should be developed. They discussed how new product development teams engaged in knowledge-producing activities by combining disparate bodies of knowledge. They challenged the notion that simply coordinating the individual team members' efforts would create new knowledge, and suggested that there should be an understanding of how social processes are complemented by cognitive processes. They suggested that there needs to be an understanding of how the emerging perception of cognition is distributed across members of the team. While team members approach a problem with their distinct repertoire of skills, knowledge and strategies, they are affected by the context. This implies that teams should not be viewed as a coordinated effort of these individual contributions, but rather as a single unit engaged in a single process of expertise (Madhavan & Grover, 1998). The authors explored the treatment of knowledge based on tacit knowledge and explicit knowledge. Tacit knowledge was seen as knowledge that cannot be fully explained, even by an expert, and cannot be transferred from one person to another without a lengthy apprenticeship process (Polanyi, 1967). On the other hand, explicit knowledge was easy to communicate and transfer to other individuals and organizations (Madhavan & Grover, 1998). The knowledge that existed within the organization was at the tacit level and difficult to transfer among the organization's members. Crucial know-how information tended to reside in the minds of the organization's members. This knowledge seemed to exist within an organization or individual and was referred to as embedded knowledge. Madhavan and Grover (1998) borrowed this idea of embedded knowledge but defined it more precisely:

> As soon as members of a team get together, there is potential for the team to create new knowledge. This new knowledge is a result of a combination of explicit and tacit knowledge. (pg. 2)

Madhavan and Grover also developed a model of showing how knowledge was transferred from the individual to the other team members. They advanced several propositions based on this model to explain how teams should be created and managed. They recommended that team members be screened for having broad personal and professional interests, a variety of personal and professional experiences, and a diverse network of personal and professional contacts. Madhavan and Grover suggested managers or team leaders be screened for having degrees or on-the-job experience in multiple fields. New team members should be screened for their shared understanding of the situation in which they find themselves and their shared prior knowledge of how the system operates. This shared understanding and prior knowledge is referred to as shared mental models. Madhavan and Grover suggested that new product development teams needed predictable routines that were preserved and made available across projects. For example, some teams have attempted to document and transfer effective processes in the form of "best practices". In addition to personal and professional skills, shared mental models and predictable routines, Madhavan and Grover suggested that team goals needed to be developed with the purpose of building trust in the technical competence among the team members. They recommended that individual team members engage in rich personal interactions such as direct face-to-face meetings, and that individuals have the ability to interact frequently with one another on an informal basis. Knowledge creation was also thought to be influenced by how often information was repeated in order for individuals to complete their jobs. Essentially, these authors examined the link between team members' and leaders' cognitive attributes and process attributes in developing new products.

Kraiger and Wenzel (1997) also examined the idea of shared mental models among team members. They indicated that research on teams had focused on identifying the set of core behavioural characteristics for successful team performance, such as "communication", "back-up", "giving and receiving feedback" and "adaptability and coordination", however they noted that there has been an expansion in the study of team performance to include a cognitive focus. These authors focused on developing measures of shared mental models to better understand the relationship between shared mental models and team performance or team process measures. Based on the idea of shared mental models, team members shared task information and mutual expectations for complementary task behaviours. Team performance was enhanced because team members were able to form accurate explanations and expectations for a task, use a common language, coordinate actions, adapt behaviours to task demands, and facilitate information processing.

Research from the field of group composition provided additional support for examining cognitive processes. Findings in this area of study have shown that when group members had a shared conceptualization of one another's expertise, they could pool the information more effectively and reach better decisions (Hollingshead, 1998). Hollingshead presented a model that examined the relationship between members' individual knowledge, communication processes and group decisions. This model built directly on work completed in the area of transactive memory. Transactive memory referred to the ability to know: (1) who was the expert in different knowledge domains, (2) how to access information from others, (3) how to communicate that information effectively and (4) how to use the retrieved information in collective decisions. Hollingshead tested a model of transactive retrieval in decision-making groups, and concluded that communication and retrieval processes in transactive memory depended upon the distribution of knowledge within the group.

Cannon-Bowers, Tannebaum, Salas and Volpe (1995) extensively reviewed the literature and suggested that teamwork was comprised of competencies in the areas of knowledge (principles and concepts underlying a team's task performance), skills (psychomotor and cognitive skills needed to perform a team task), and attitudes (internal state that influenced the individual's choices and decisions to act in a certain way). These researchers also indicated that these competencies could be generic or specific to a team, or generic or specific to a task.

Within the health care team literature, there has been the recognition that underlying each health care profession was a specific knowledge and skill base that has been termed the "cognitive map" (Drinka & Clark, 2000). Drinka and Clark suggested that members of a team needed to possess at least a basic understanding of each others' cognitive maps to avoid misunderstandings, and as the team members worked together over time, individuals may actually experience internal changes in thought processes and normative assumptions upon which they base their practice. However, there has been limited exploration or understanding of how each team member's individual knowledge and skills developed within the context which enhanced the cognitive performance of the group, or how health care team members developed a shared conceptualization of the distributed knowledge to make optimal group decisions.

There appeared to be a need to account for the fluid and implicit interactions often observed in successful teams (Kraiger & Wenzel, 1997). In the areas of applied psychology and business, the idea of shared mental models has become recognized as one way to describe how team members develop a shared understanding of the situation in which they find themselves. The health care team literature has been limited in the exploration of how cognitive components influence team functioning. One of the greatest difficulties with understanding how cognitive components influence team functioning has been the lack of operational factors and specific measurements that are able to specifically assess shared mental models among team members (Kraiger & Wenzel, 1997). While it seems logical that cognitive components would complement social process components, there is limited evidence regarding this interaction and no clear delineation of the critical components.

Summary of social and cognitive processes

There has been an attempt to categorize the essential team components of interprofessional team functioning in various ways. Dickson and McIntyre (1997), applied psychologists, identified and defined seven core components: (1) communication, (2) team orientation, (3) team leadership, (4) monitoring, (5) feedback, (6) back-up and (7) coordination. Katzenbach and Smith (1993), business researchers, recommended six standards to ensure team performance: (1) small enough in number, (2) adequate levels of complementary skills, (3) truly meaningful purpose, (4) specific goal or goals, (5) clear working approach and (6) sense of mutual accountability. Madhavan and Grover (1998), business researchers, proposed several variables for the creation of new product development teams: (1) T-shaped skills (understanding that discipline interacts with others), (2) shared mental models, (3) new product development routines, (4) A-shaped skills (ability to claim expertise in two different disciplines), (5) trust in team orientation, (6) trust in technical competence, (7) information redundancy and (8) rich personal interaction.

It can be seen that the study of group dynamics and teamwork has resulted in a vast generation of definitions and descriptions and a veritable laundry list of characteristics that are "supposed to be" related to team functioning and/or performance. This information has often been applied to interprofessional teamwork in the health care setting. Within the health care literature on teams, characteristics believed to be important for team functioning have included trust, respect, negotiation, compromise, diplomacy, flexibility, listening skills, effective communication skills, understanding and acceptance of each other's expertise and roles, understanding of others' scopes of practice, willingness to exercise judgement and authority in own realm of expertise, willingness to share responsibility, willingness to make decisions, and determining goals jointly (Miccolo & Spanier, 1993). Drinka and Clark (2000), health care researchers, developed four essential team components: (1) practice components – personal and professional, (2) intra-team components – structure and process, (3) organizational components – internal and external and (4) components necessary for team maintenance over time. Bassoff (1983) listed only four essential team components: (1) openness and receptivity to ideas other than one's own, (2) value and respect for other disciplines, (3) interdependence and acceptance of common goals and (4) willingness to share responsibility and take responsibility. Other authors have described only the need for common objectives, differential professional contributions and communication (Casto & Julia, 1994; Ducanis & Golin, 1979).

The literature from other areas has been transferred or applied to interprofessional health care teams, but the essential constructs for effective health care team functioning have not been adequately clarified or verified. Where there have been attempts to verify some of the characteristics found in the literature, these efforts have been limited to one or two teams in very specific organizational settings (e.g., early intervention teams), have lacked representation from rehabilitation health disciplines (e.g., occupational therapy, physical therapy and speech-language pathology), or have not utilized information from teams operating in the "real-world" setting in order to benefit from the knowledge of a functioning health care team. There does not appear to be consistent agreement regarding the components necessary for interprofessional health care team functioning. Certain terms and ideas were repeated in the literature, but it has been difficult to attain a complete and solid understanding of the knowledge, skills, attitudes, behaviours and relationships that team members need to possess and the circumstances that must prevail in order for a group of individuals to function as a team.

Assessment of team functioning

In addition to the number of studies that focused on describing the various components of team functioning, several assessment instruments have been developed. The Resource Centre for the Geriatric Interdisciplinary Team Training Program, which is a John A. Hartford Foundation multi-site funded program with the main site being at New York University, compiled and summarized available instruments through searches of MEDLINE, CINHAL and personal communication (Siegler, Hyer, Fulmer & Mezey, 1998). The instruments were all found to have different foci and were categorized into areas such as reaction of participant to a course on interdisciplinary training, individual and team functioning, student knowledge, team effectiveness, and team member behaviour and perceptions.

The assessment instruments that were of particular interest were the ones that investigated individual and team functioning, team effectiveness, and team member behaviour and perceptions. Assessment instruments in the category of individual and team functioning were either motivational value system instruments or conflict inventory instruments (Siegler et al., 1998). The Resource Centre reported on two instruments in the area of team effectiveness: (1) Team Effectiveness Survey and (2) Team Progress Diagnostic (Siegler et al., 1998). The Team Effectiveness Survey was a 20-item behaviour description. Team members received a score that characterized their team behaviour and interpersonal styles. The assessment sources came from self and others. There was no information available regarding the reliability or validity of this instrument. The Team Progress Diagnostic was an earlier version of the Team Effectiveness Survey. This instrument had 32-items which assessed team members' behaviours. Again, there was no information available regarding the reliability and validity of this instrument.

The Resource Centre also reported on instruments from the category of team behaviour and perceptions. In this category, assessment instruments such as the Interprofessional Perception Scale (Ducanis & Golin, 1979) and Interdisciplinary Education Perception Scale (Luecht, Madsen, Taughter & Petterson, 1990) were described. Ducanis and Golin (1979) developed the Interprofessional Perception Scale (IPS). The IPS was used to rate how professionals viewed themselves, how they viewed other professions, and how they believed other professionals viewed them. The scale was comprised of 15 statements regarding aspects of team functioning and was completed in reference to a particular profession. For example, if the respondent was a nurse, then he/she would be asked to respond to statements in three ways: (1) how the nurse would answer (level one response), (2) how a physical therapist (other profession) would answer (level two response) and (3) how that physical therapist would say the nurse answered (level three response). The following are examples of the 15 statements: "understand the capabilities of other professions", "trust others' professional judgment", and "fully utilize the capabilities of other professions". The 15 items were dichotomously scored. Individual respondents indicated whether they agreed that the statement applied to the profession being assessed. Ducanis and Golin (1979) reported establishing reliability through a test-retest process over a three-week period. Reliability was measured by percentage of exact agreement. For level one responses, the range of agreement was from 74 to 86 percent with a mean of 80 percent. For level two responses, the range of agreement was 74 to 81 percent with a mean of 79 percent, and for level three responses the range of agreement was 72 to 80 percent with a mean of 74 percent.

Skoloda and Angelini (1998) revised the IPS, retaining the 15 statements and adding three additional items to determine the importance of that profession to the treatment team. These three items were: (1) whether a certain profession was seen as important for adequate patient care, (2) whether a profession's assessments were valued by the treatment team and (3) whether a profession impacted significantly on the treatment team. The Revised Interprofessional Perception Scale (RIPS) used a seven-point Likert-type scale for rating the extent to which an individual agreed with each statement. The authors described the improved utility of this instrument in terms of the ability of the RIPS to help professions understand how they were perceived by others, how they were perceived as contributing to patient care, and how they identified where changes needed to take place to improve the perception of their respective profession. The authors used Cronbach's alpha to compute the internal consistency of the RIPS. Alpha ranged from .81 when administered in reference to registered nurses, to .89 when administered in reference to recreational therapists. The internal consistency of the RIPS seemed adequate. The IPS and RIPS scales provided a basis for evaluating perceptions that team members held about each other and the potential misperceptions that existed on teams regarding the different disciplines.

The Interdisciplinary Education Perception Scale (IEPS) as developed by Luecht, Madsen, Taughter and Petterson (1990) was an 18-item perceptual/attitudinal inventory. Typical statements included, "Individuals in my profession are well-trained", "Individuals in my profession trust each other's professional judgment" and "Individuals in my profession think highly of other related professions". The statements were scored on a six-point scale from strongly agree to strongly disagree, and the scale was validated with 143 students and administrators in allied health professions (occupational therapy, medical records, speech-language pathology and recreational therapy). The 18-item scale was factor-analyzed using a principal components analysis. Four component factors (perceived competence with own profession, need for interdisciplinary cooperation, perception of actual cooperation and willingness to understand the value of others) accounted for 58.6% of the variance in the instrument. Cronbach's alpha coefficient of reliability was computed for each factor. The items in component one had an alpha coefficient of .823. The items in component two had an alpha coefficient of .563. The items in component three had an alpha coefficient of .543. and the items in component four had an alpha coefficient of .518. The reliabilities for the items in components two through four were marginal.

In the summary of assessment instruments from the Resource Centre for the Geriatric Interdisciplinary Team Training Program, an instrument titled The Team Effectiveness Measures was described. It was indicated that a more detailed manuscript regarding the development of this assessment instrument had been submitted for publication. Heinemann, Schmitt, Farrell and Brallier (1999) described the development and testing of the Attitudes Toward Health Care Teams Scale, which is a revised version of The Team Effectiveness Measures. Heinemann, Schmitt, Farrell and Brailler believed that attitudes are often determinants of behaviour. Therefore, attitudes toward health care teams may influence the practitioners' participation on teams, the quality of team functioning, and the quality of care to patients. These authors described a need for a general attitude assessment instrument, comparing the attitudes of team members and testing hypotheses regarding the interrelationships between attitudes and participation of members, team functioning, and outcomes of educational training programs designed to alter attitudes and improve team performance. The Attitudes Toward Health Care Teams Scale was developed in three phases. Initially 31 items were identified for the scale, though it was eventually shortened to 21 items. It also was determined during this three-phase study that Factor 1 (Quality of Care) and Factor 2 (Costs of Team Care to Members) were measuring the same general concept, so the 21-item scale was forced into a two-factor solution (Quality of Care and Physician Centrality). The authors recommended using the 14-item Quality of Care/Process subscale from Phase 3 along with the six-item Physician Centrality subscale from Phase 2 rather than the five-item subscale from Phase 3, because there was more variance and a better alpha. Cronbach's alpha coefficient of reliability was computed for each factor. Alpha was .83 for Quality of Care/Process during Phase 3, and .75 for Physician Centrality during Phase 2.

Other assessment instruments that were not mentioned in the summary provided by the Resource Center for the Geriatric Interdisciplinary Team Training program included Measuring Individual Participation on the Interdisciplinary Team by Bailey, Helsel-DeWert, Thiele and Ware (1983), the systematic approach to examining team functioning by Antoniadis and Videlock (1991), and the Instrument to Measure Attitudes Toward Nurses by Hojat and Herman (1985). The John A. Hartford Foundation Geriatric Interdisciplinary Team Training Program has recently developed a Team Fitness Test which is available on their website, www.gitt.org.

Bailey, Helsel-DeWert, Thiele and Ware (1983) described a scale designed to measure individual participation at interdisciplinary team meetings, titled Measuring Individual Participation on the Interdisciplinary Team. These researchers indicated that the interprofessional process was a complex interaction of individual skills, professional and personal priorities, patient needs, group dynamics and organizational regulations. They felt that at the center of all of this was the individual's ability to participate and contribute to the group's goals. They developed a 17-item scale consisting of three self-report items, which measured the degree to which the team member prepared, submitted and reviewed reports prior to team meetings. Three items assessed the quantity and quality of information provided by the participant. Seven items assessed group participation. Two items assessed disruptions (e.g., arriving late, whispering). Two additional items assessed nonverbal behaviour. Each item was rated on a scale ranging from 1 to 5. The scale was used during an observational study of team meetings at a residential institution for severely and profoundly mentally-challenged persons to measure the individual participation of team members during interdisciplinary team meetings. Evidence of reliability was based on interobserver agreement and generalizability across team meetings. Observers used this scale to rate participants and agreed on the level and quality of participation, with 88% of the interobserver comparisons either in exact agreement or off by one point. It was found that participation of team members varied depending on the type of meeting. Validity was assessed through expert review, component analysis and congruent validity. The experts generally agreed that the scale measured important dimensions of participation. Component analysis suggested that participation was not a single construct, but had at least five dimensions: (1) preconference preparation, (2) providing information, (3) participating in the group process, (4) distractions and (5) nonverbal behaviour. Congruent validity was assessed by comparing the observer scale with a self-report participation scale. There was a significant relationship between the two, but considerable variability was left unexplained. This instrument seemed to provide an alternative for investigating the nature of participation of team members during team meetings.

Antoniadis and Videlock (1991) used a systematic approach to examine team functioning. As the reader will recall, Antoniadis and Videlock (1991) had developed a transactional model of team functioning and had identified environmental and clinician characteristics that affected team functioning. They identified key indicators that suggested the presence of environmental and clinical variables. For example, team conference time was an indicator of the environmental variable, "participatory validation". Demonstrating understanding of total child development was an indicator of the clinician variable, "common knowledge base". These key indicators were only proposed, and had not been tested within a health care team setting.

Hojat and Herman (1985) developed a 20-item scale on attitudes toward nurses. Each item was judged on a four-point Likert scale from four (strongly agree) to one (strongly disagree). Some of the statements were "Nurses are qualified to assess socio-psychological aspects of patients' needs", and "A nurse should be viewed as a collaborator with a physician rather than his/her assistant". The alpha coefficient was found to be .84.

The Geriatric Interdisciplinary Team Training Program, described earlier, has developed a Team Fitness Test. This assessment instrument has 25 items, and is available on their website at www.gitt.org. Each item can be rated on a four-point scale, from four (definitely applies to our team) to one (does not describe our team at all). Some examples of the statements are: "our mandate, goals, and objectives are clear and agreed upon", "our meetings produce excellent outcomes", and "our roles are clearly defined and accepted as defined by all team members". There was no information available regarding reliability or validity testing.

Summary of assessment instruments

Most of the assessment instruments developed to date are limited and narrow in focus. The design of many of these instruments has been restricted to the focus that the researcher felt was important at that particular moment. Often these assessment instruments have been limited to specific populations or specific professions, which has decreased the ability to apply the instrument in other situations. In most cases, the assessment instruments have been designed using broad or general statements regarding team functioning. Team members are requested to rate these statements based on their perceptions or personal opinions of team functioning. In addition, some statements have also been developed that include more than one item to measure per statement. For example, the statement from the Team Fitness Test (Geriatric Interdisciplinary Team Training), "Our roles are clearly defined and accepted as defined by all team members", has two measurement items within the one statement – clarity of roles and acceptance of roles. Other assessment instruments have attempted to assess complex concepts such as trust or respect with a single statement. For example, the statement from the Interdisciplinary Education Perception Scale (Luecht, Madsen, Taugher and Petterson, 1990), "Individuals in my profession trust each other's professional judgment", illustrates that the researcher was only assessing one aspect of trust. The validation processes for these assessment instruments have been either non-existent, or if reliability and validity measurements have been presented, they have been less than convincing.

Another issue regarding team assessment has been whether the developers of the assessment instruments have been concerned with team processes or team outcomes. Although teams are valued according to their outcomes, such as whether the basketball team wins the tournament or whether the army wins the battle, the outcome measures may be related to factors other than teamwork. For example, the completion of a sailboat race may be due not only to the team operating the boat but also to the characteristics of the boat itself. Therefore, team processes may actually provide a better picture of how the team is functioning. Process measurements may provide insights into the problems being encountered by the team and strategies for fixing those problems. A comprehensive measurement of teamwork likely will need to include both outcome and process factors (Brannick, Salas & Prince, 1997).

Summary

A review of the literature relating to components and assessments of team functioning provided a historical overview of team development and how the literature in the various disciplines had contributed to an overall understanding of team functioning. There has been great discussion about processes such as team goals, levels of participation, decision-making styles and communication. The utilization of teamwork has brought with it both assets and liabilities (Brill, 1976), but there has been no clear delineation of the knowledge, attitudes, skills, behaviours and relationships that team members must possess and the circumstances that must prevail in order for a group of individuals to function as a team.

The findings regarding teams and teamwork have come from a variety of sources, which has resulted in the generation of a number of different perspectives and the lack of an overarching model or theory that integrates the various perspectives and clearly identifies the necessary components of team functioning. Within the previous literature, lists of generic statements regarding the components required for team functioning have been developed. These lists generally contain terms that are imprecise, lack specificity, have several connotations, or are subject to different interpretations. The number of items included in these lists has varied from three to approximately twenty-four different components necessary for team functioning. There does not seem to be any consensus or agreed upon set of dimensions, factors, skills or activities for interprofessional health care team functioning.

As it has been difficult to identify and describe the necessary components for interprofessional health care team functioning, and the assessment instruments have generally been developed by researchers to measure what appeared useful at that moment. Many of the existing assessment instruments were developed for specific populations or professions (e.g., geriatric care, early childhood intervention) and lacked applicability to health care teams working in various contexts or having different professional compositions. The existing assessment instruments tend to use generalized statements regarding team functioning and are often vague in nature. The statements do not contain specific or observable behaviours that are meaningful and measurable and do not appear to capture the complex combination of knowledge, skills, attitudes, behaviours, relationships and circumstances that are broadly accepted as requisites for successful health care team performance.

Previous research has encouraged the formation of interprofessional health care teams to provide services for patients with complicated problems, but there continues to be a lack of understanding regarding the critical components of interprofessional health care team functioning. This topic has received much attention, and there have been many books, articles and reports written. However there appear to be inconsistent views, inaccurate assumptions, and differing expectations regarding interprofessional health care team functioning. It has been difficult to identify and describe the necessary components for interprofessional health care team functioning and specify behaviours that are observable, meaningful, and measurable in order to assess the construct of interest.

Research questions

To better understand the construct of interprofessional health care team functioning, it was necessary to develop a clearer description and improved definition of the construct at both the theoretical and empirical levels (Benson, 1998; Kraiger & Wenzel, 1997). Therefore, a few selected interprofessional health care team members were asked to provide their insight into teamwork. The following research questions were addressed during this study:

1. What components (e.g., knowledge, skills and attitudes) are evident in a practicing interprofessional health care team?
2. How do those components compare with the components described in the literature as characteristic of team functioning?

A construct-oriented approach was used to specify the meaning of the construct of interest, describe its components, and list the features of the construct that distinguish it from other constructs.

The specific intent of this study was to identify and describe the components of interprofessional health care team functioning in a meaningful and thorough manner. This research study was not designed to address team effectiveness, efficiencies, or potential cost benefits of team functioning. While there has been some discussion regarding team effectiveness and efficiency in the literature, there did not appear to be enough consistency and depth regarding the necessary components for interprofessional health care team functioning, therefore it was deemed necessary to conduct this study.

CHAPTER THREE: METHODS

This chapter consists of four sections. The first section reviews the construct-oriented approach and the qualitative analysis strategies utilized to examine the interview data. The second section describes the participants who were involved in the study. The third section outlines the materials that were used. The fourth section provides detailed information regarding the procedures that were used to conduct this investigation, including the data analysis and trustworthiness processes.

The Construct-Oriented Approach

The process of uncovering the strategies and working procedures of practicing interprofessional health care teams proved to be a difficult task. The interactions among interprofessional health care team members were complex. The manner in which the team members actually came to common understandings and unified decision-making was obscure, yet the team members' particular mandate of patient and family care was fulfilled within this team process. In addition, current and historical literature revealed an incomplete understanding of interprofessional health care teams.

The intent of this study was not to predetermine or limit the direction the investigation might take due to the intricacies and complexity of interprofessional team functioning. This study employed exploratory and inductive methods to discover a richer description, explanation and understanding of the processes that occur in interprofessional health care teams and to begin to develop the initial stages of an assessment instrument. As previously indicated in Chapter One, to better understand the construct of interprofessional team functioning, it was necessary to embark on a process of validation using a construct-oriented approach. Cronbach and Meehl (1955) define a construct as individuals' psychological traits, characteristics or abilities. Constructs originate as abstract and latent variables and are manifested through performance or behaviour that is observable, meaningful and measurable. In the case of the construct of interprofessional team functioning, behaviours may be measured by having team members respond to questions, by providing self-ratings, or by having an observer record interactions among team members. In order to acquire performances or behaviours that are observable, meaningful and measurable, a construct-oriented approach is a prerequisite. The three requirements for a construct-oriented approached were highlighted in Chapter One, but are further explained below.

Messick (1989) and Benson (1998) describe construct validation as consisting of six aspects: (1) content relevance and representativeness, (2) substantive, (3) structural, (4) generalizability, (5) external and (6) consequential. Each of these aspects should be viewed as part of a continuum where each aspect leads to the next and builds evidence for construct validity, rather than as discrete aspects or stages (Benson, 1998). Benson indicated that a strong validation program consisted of three aspects: substantive, structural, and external. For the purposes of this study, only the substantive aspect of the construct-oriented approach was initiated. Content relevance and representativeness was included as part of the substantive stage (Benson, 1998). The substantive aspect is the first requirement of the construct-oriented approach. This aspect includes the generation of theoretical and empirical definitions, the gathering of content-related evidence, and the consideration of the relevance and representation of the dimensions or facets of the construct. The substantive aspect of construct validity required that a sufficient description and an adequate definition of the construct be developed both at the theoretical and empirical level. Experiential views of the health care team members, previous research findings, and the investigator's own observations were used to establish the theoretical boundaries of the construct.

Qualitative data analysis strategies were used to examine the experiential views of the participating health care team members. Thematic analysis and content analysis were employed to interpret and derive meaning from the data. Thematic analysis involved identification of themes that lay beneath the surface of the interview but, once identified, were readily apparent. These themes were frequently "concepts indicated by the data rather than concrete entities directly described by the participants" (Morse & Field, 1995, p. 139). For example, while the participants in this study were engaged in applying their knowledge to a particular patient situation, they would not say that they were generating new knowledge. However, they would speak about how they came to a particular way of working with a person through applying their knowledge and blending their expertise to provide intervention for this patient. As Van Manen (1991) suggested, themes are the structures that make up the experience, and the task of the researcher is to show or recover the themes that are embedded in the dialogue of the research participants. According to Morse and Field, content analysis involves analysis by topic. They suggest that each interview be divided into categories within each topic (Morse & Field, 1995). Codes are used to identify the content in the interview, and category labels are used to name each group of data (Morse & Field, 1995). In the current study, characteristics of team functioning replaced "codes" and components replaced "categories". It was thought that characteristics and components would not limit the data analysis as much as would categories. To apply thematic and content analysis strategies, the procedures outlined by Rothe (1993, 2000) were used to analyze the data.

The experiential views of the health care team members, previous research findings, and the investigator's own observations were used to describe and define the construct of interest from a theoretical perspective. Benson (1998) indicated that constructs also have a corresponding empirical side that operationalizes them. The empirical area is comprised of a specific set of observable variables used to measure the construct. As indicated above, views of the health care team members were examined, and characteristics were identified, components were formed, and themes were developed. The identified components and themes then were compared with previous literary findings. This process provided an understanding of the knowledge, skills, attitudes, behaviours, and relationships that health care team members needed to possess, and the circumstances that needed to prevail in order for successful interprofessional team functioning to occur. A set of observable variables was developed from this information, which then could be used to measure the construct of interest. The specific set of observable variables for the construct of interest will be outlined in Chapter Four and discussed in more detail in Chapter Five. Content-related evidence in the form of relevance and representativeness of expert judgment ratings will need to be gathered, analyzed, and reported at a future time to conclude the substantive stage of construct validity.

The second requirement of the construct-oriented approach is the identification of the relationships among the construct of interest and other constructs. These relationships are referred to as the nomological network. This network is composed of multiple concepts, measures and their interrelationships (Benson, 1998; Cronbach &

Meehl, 1955; Kraiger & Wenzel, 1997). As the components were formed and the themes developed, it became apparent that a unifying model of interprofessional health care team functioning could be formulated. The resulting model visually illustrates the interrelationships among the identified themes and components and lists the features of the construct. This model is described in detail in Chapter Five. It should be noted that the model only qualifies as part of a nomological network, as it is imperative for the measures of the construct of interest to be compared with measures of other constructs. In order to attempt to explain the observed behaviours, it is important to develop hypotheses about the conditions under which a measure of interprofessional team functioning would or would not account for team performance.

The third requirement of the construct-oriented approach is to test the hypotheses one at a time (Benson, 1998; Cronbach & Meehl, 1955; Kraiger & Wenzel, 1997).

Completion of the construct validation process will require further development of the nomological network, development of two hypothesized patterns of relationship (i.e., one pattern between measures of the construct of interest and measures of other constructs that measure same or similar behaviours to the construct of interest and the other pattern between measures of the construct of interest and other constructs that measure behaviours having little in common with the construct of interest), and testing of these hypotheses. These requirements are beyond the scope of this study and will need to be considered in future research.

Participants

This study involved observing and interviewing five interprofessional teams, each with five to eight members, that met the inclusion criteria. It should be noted that one team that was approached did not meet the inclusion criteria, and therefore did not participate in the study. The definition of a health care team proposed by Manion, Lorimer and Leander (1996) was used to guide the selection of the teams. Their definition of a team was:

> a small number of consistent people committed to a relevant shared purpose, with common performance goals, complementary and overlapping skills, and a common approach to their work. Team members hold themselves mutually accountable for the team's results or outcomes. (p. 6)

In addition to meeting the characteristics of this definition, the teams chosen for participation needed to have representation from typical rehabilitation disciplines (e.g., audiology, occupational therapy, physical therapy and speech-language pathology). Interprofessional teams that were interviewed had representation from at least two of the four rehabilitation disciplines and at least three other health care disciplines, such as medicine, nursing, pharmacy, psychology and social work. Another selection criterion was the length of time the team members had been together providing a particular service. Teams that had at least 75% of their team members together for at least one year were interviewed.

The five teams randomly were assigned a letter from A to E, and will be referred to as Team A, Team B, Team C, Team D and Team E. The teams came from two different types of health care settings, hospital and community. Four teams were within hospital settings and one team was from a community setting. The following table is a summary of the various teams studied, including the setting, disciplines represented on the teams, and reported years of experience on the particular team:

Table 1 Summary of participating teams

Team	Represented disciplines	Years on team (range)
Team A – hospital setting	Nursing, Physical Therapy (2), Occupational Therapy (2), Recreational Therapy, Psychology, Pharmacy, Social Work	1.5 – 10 years
Team B – hospital setting	Nursing, Occupational Therapy, Physical Therapy, Pharmacy, Medicine (2), Social Work	4 months – 9.5 years
Team C – hospital setting	Social Work, Physical Therapy, Speech-Language Pathology, Occupational Therapy, Program Aide, Psychology	4 – 10 years
Team D – community setting	Nursing (Centre Manager, Clinic Supervisor, Home Support Supervisor, Mental Health Supervisor, Lead Home Support), Licensed Practical Nurse, Clinic Clerk, Occupational Therapy, Physical Therapy, Social Work (2), Recreational Therapy, Pharmacy	1.5 – 4.5 years (Nursing Clinic Supervisor had a temporary position and had only been on this team for 6 weeks but had worked at another similar program for 4.5 years)
Team E – hospital setting	Physical Therapy (2), Prosthetics, Occupational Therapy, Nursing, Recreational Therapy, Medicine, Psychology, Social Work	1 - 15 years

Materials

Protocols were developed to guide both the observations and the semi-structured interview process (Appendices E & F). A field note reporting form (Appendix G) was used to organize the written notes that were completed by the investigator during the first interview sessions (Krueger, 1994).

Procedure

Contacting participants

Administrators/directors at sites within Capital Health, Capital Care Group and Caritas were contacted via letter (Appendix A) asking them to identify potential teams within their respective organizations whose members might be willing to participate in this study. Administrators/directors were requested to approach team leaders within their organization and determine their willingness for the investigator to contact them to further explain this study. Each team leader identified was then telephoned by the investigator using a scripted explanation (Appendix B). The investigator proposed to meet with the health care teams at their convenience to explain the purpose of the study and to answer any questions. At the conclusion of the meeting, packages containing an information letter (Appendix C) and a participation consent form (Appendix D) were provided to each team member. Team members were asked to mail their signed consent form to the investigator. If 100% of the team agreed to participate, the investigator contacted the team leader to schedule an observation and interview. However, if a team member was on leave during the time his or her team was to be involved in the study, then consent of all remaining team members was taken as 100% participation. If less than 100% of any teams' members consented to participate, the team leader was informed that not all team members consented, and therefore the team was not able to participate.

Obtaining patient consent

During the team observation portion of this study, patient and/or their family members could be present. In the event that a patient was present during an observation, the investigator requested that the team leader inform patients of the investigator's presence and purpose and seek their verbal consent. The investigator noted the specific date and time that the patient and/or family member provided verbal consent.

Procedure for observations

Prior to the observation and interview, the investigator reviewed the main points of the consent form and confirmed that all participants understood the intent of the study and indicated that they were free to withdraw at any time during the study. It was anticipated that the investigator would need to observe various activities related to service delivery for each team's patient population (e.g., team meetings, discharge planning conferences). The purpose of these observations was to watch a number of activities thought to be representative of typical interactions among the team members and to familiarize the investigator with the team operations. The types of activities and the duration of the observations were negotiated with each team.

Most of the team members felt that the best opportunity to observe their team in action was during their daily or weekly patient meetings or rounds. During the observations of the team rounds or meetings, running notes were taken. The protocol that was followed for the observations is outlined in Appendix E. It was not possible to capture word-for-word what was said during the team meetings, so key words and phrases were noted beside the particular title of the discipline team member who made the comments. These key words and phrases helped the investigator to recall the various topics of discussion. The investigator attempted to capture the tone of each team meeting. For example, if a humourous comment was made or side conversations were occurring, these types of events were recorded. The intent of the running notes was to record in a written format what the investigator observed the team members doing during the team rounds or meetings. Following the observations, the investigator reflected upon the observed events and wrote down thoughts and feelings that had occurred. The investigator also attempted to record ideas or thoughts about topics that were not discussed during the team meetings and to inquire further about them with the team members during the interview sessions. The running notes were used to confirm whether certain described behaviours, such as humour, actually occurred during the team meetings or rounds.

Procedure for interviews

Upon completion of the observations, a semi-structured interview of about one hour in length was completed with each team. The protocol followed for the interview is outlined in Appendix F. During the interview, limited field notes were taken and the interviews were audio taped. The field note reporting form is outlined in Appendix G. The interviews were guided discussions to ensure that the topics of interest were covered. To accomplish this the investigator tried to: (1) have a limited number of open-ended questions that prompted the discussion, (2) allow the team members to use their own words to describe the dynamics of their interprofessional health care team, (3) paraphrase answers in order to indicate and ensure understanding of the response, (4) allow for silences during the interviews in order to give team members time to reflect on answers, (5) use neutral comments or questions to continue the discussion, (6) ensure that all team members had an opportunity to share a response about a particular topic and (7) request an example in order to better understand the response.

A second interview or verification session was later completed with the participating teams. The second interview provided the investigator with an opportunity to prompt the team members to describe specific examples about how their team was functioning. The participating team members were encouraged to "tell a story" about how they interacted with a certain patient, as it seemed that they were able to provide a richer description of how their respective team functioned when they used this approach. It also was observed that if a team member could draw upon the use of an analogy it was easier for them to articulate the necessary components of team functioning. The team members' use of stories and analogies to describe their respective team functioning will be discussed in Chapter Four.

Preparing of the transcripts

Several analysis strategies for handling taped and written material from group interviews have been proposed (Krueger, 1994). The strategy implemented in this project was a transcript-based analysis. A transcriber listened to the first and second interview audio tapes and produced the transcripts from the recordings. The investigator then listened to the same audio tapes and reviewed the transcripts. Any errors or omissions were corrected. When the transcripts were being reviewed by the investigator, the specific discipline of the health care team member who made the comment was noted beside each quotation. The transcripts of the tapes were analyzed as described in the following section.

Data Analysis

Strategies

As described above, two analysis strategies were used to examine the data: thematic analysis and content analysis. In order to systematically apply thematic and content analysis, the procedure described by Rothe (1993, 2000) was followed to synthesize the interview data from the health care team members. This procedure, which is outlined in Appendix H, included reading notes and transcripts of the interviews, extracting key words and phrases from the data, identifying key words and phrases with common characteristics, combining those with similar characteristics into components, and then comparing the components to develop themes. Although this appeared to be an entirely sequential process, it required constant comparison and returning to the original transcripts to ensure that the data provided by the team members were not lost during the synthesis process.

Process

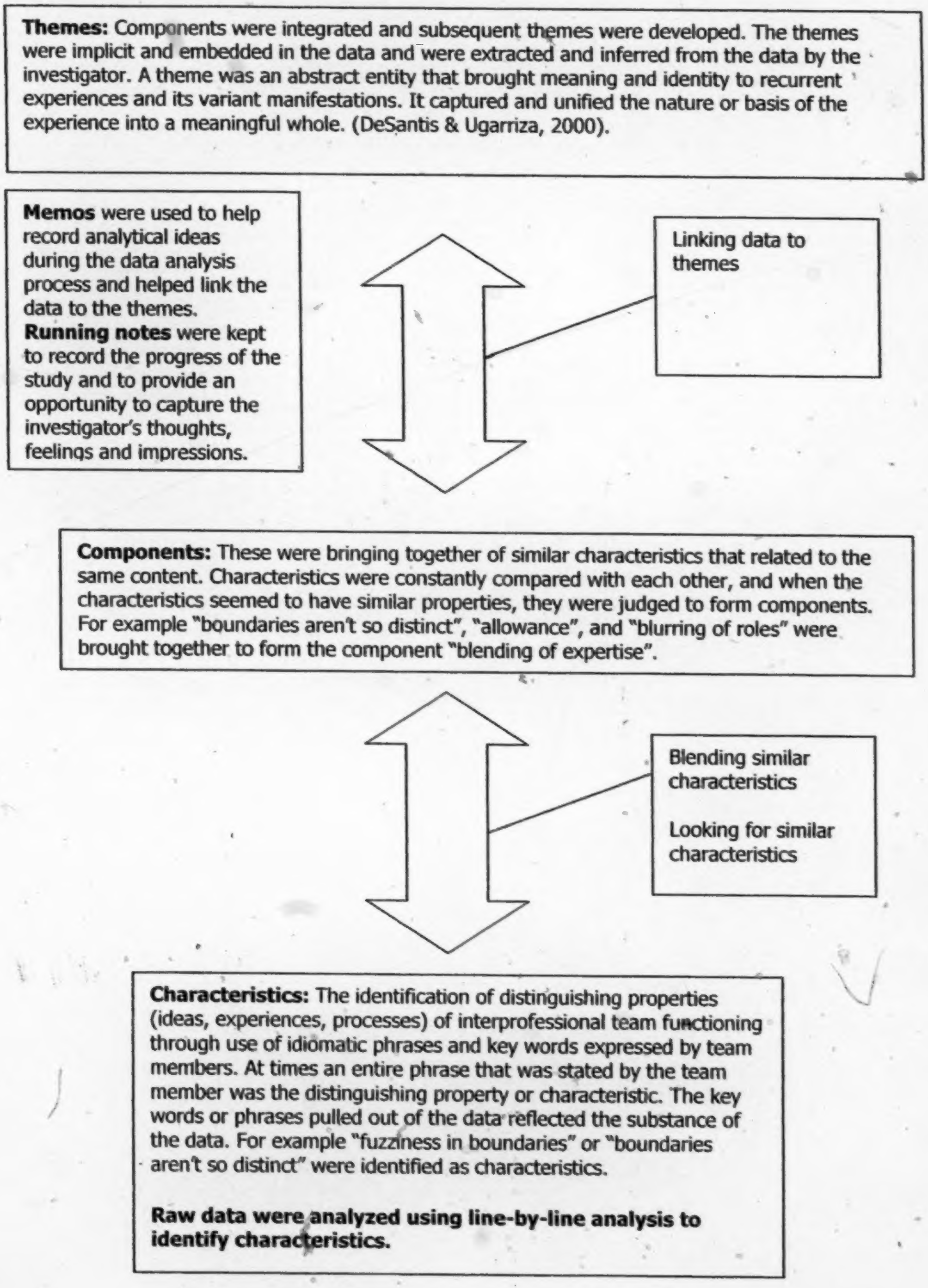
Defining characteristics, components and themes. Characteristics were found to be distinguishing properties (e.g., ideas, experiences and processes) of interprofessional team functioning. Key words, idiomatic phrases, sentences or paragraphs that reflected the substance of the data were used to identify the characteristics. These characteristics constantly were compared with each other, and when the characteristics seemed to have similar properties they formed components.

In this way, components were found to be the bringing together of similar characteristics that related to the same content. Components also were compared with one another, and if they were found to be similar in nature, they were blended together to form a new component. These components then were integrated to form themes. Themes were defined as abstract entities that brought meaning and identity to recurrent experiences and its variant manifestations. A theme captured and unified the nature or basis of the experience into a meaningful whole. Themes were implicit and embedded in the data and it was necessary for the investigator to extract and infer them from the data (DeSantis & Ugarriza, 2000). In this study, the components were integrated and themes were developed. Data analysis was a dynamic process that weaved together key ideas, emerging themes and literature findings. During the integration of the components and the development of the emerging themes, research findings were used to assist in the formulation of the themes.

Schematic of data analysis process. A schematic of the data analysis process was developed to provide a pictorial representation. Figure 1 on the following page should be read from the bottom to the top in order to understand and follow the data analysis process. Further explanations regarding how the characteristics were identified, how the components were formed, and how the themes were developed appear below the figure.

Figure 1 Schematic of data analysis process

Please read this figure from the bottom to the top.



Themes: Components were integrated and subsequent themes were developed. The themes were implicit and embedded in the data and were extracted and inferred from the data by the investigator. A theme was an abstract entity that brought meaning and identity to recurrent experiences and its variant manifestations. It captured and unified the nature or basis of the experience into a meaningful whole. (DeSantis & Ugarriza, 2000).

Memos were used to help record analytical ideas during the data analysis process and helped link the data to the themes. **Running notes** were kept to record the progress of the study and to provide an opportunity to capture the investigator's thoughts, feelings and impressions.

Linking data to themes

Components: These were bringing together of similar characteristics that related to the same content. Characteristics were constantly compared with each other, and when the characteristics seemed to have similar properties, they were judged to form components. For example "boundaries aren't so distinct", "allowance", and "blurring of roles" were brought together to form the component "blending of expertise".

Blending similar characteristics

Looking for similar characteristics

Characteristics: The identification of distinguishing properties (ideas, experiences, processes) of interprofessional team functioning through use of idiomatic phrases and key words expressed by team members. At times an entire phrase that was stated by the team member was the distinguishing property or characteristic. The key words or phrases pulled out of the data reflected the substance of the data. For example "fuzziness in boundaries" or "boundaries aren't so distinct" were identified as characteristics.

Raw data were analyzed using line-by-line analysis to identify characteristics.

Identification of characteristics from data. Line-by-line analysis was completed for both the first and second interview transcripts. Key words, idiomatic phrases, sentences or paragraphs that stood as meaningful and central to the topic were identified as characteristics. The following is an example of a quotation from a team member:

> **Team E:** I think the willingness to have some fuzziness in the boundaries of our jobs, so that although we each have we represent a discipline, there's still our boundaries aren't so distinct that we can't X can't comment on somebody's social history and X isn't allowed to comment on something that's happening in somebody's interest in recreation. So there's some ability to allow that fuzziness and for all of us to accept that.

From this quotation, two phrases were identified as characteristics: "fuzziness in boundaries" and "boundaries aren't so distinct". These phrases seemed to represent the substance of the quotation. As the transcripts were read and more and more characteristics were identified, various components emerged.

Blending of characteristics. During the data analysis process, it was recognized that some of the identified characteristics were similar in nature and could be blended together. The blending together of certain characteristics or topic areas seemed to provide a clear interpretation of what the investigator was attempting to extract from the raw data and represent as critical components of interprofessional team functioning. For example, "fuzzy boundaries" and "expansion of discipline" were two topic areas that were identified directly from the data. Closer examination of these topic areas revealed that they could be brought together and more accurately represented as a component, "blending of expertise". The topic areas, "fuzzy boundaries" and "expansion of discipline", addressed how team members used their individual knowledge and skills to come together and respond to the patient's particular health problems. "Fuzzy boundaries" referred to the actual behaviours that the team members engaged in when providing patient care, and "expansion of discipline" pertained to how the team members actually were thinking about patient care. It seemed that both topic areas were combining characteristics that reflected the team members' recognition that interprofessional health care team functioning required incorporating knowledge and skills in different and innovative ways to provide patient care. Therefore, blending the two topic areas seemed to be a logical way to represent the "blending of expertise" that appeared to be occurring within these health care teams to provide patient care.

Formation of components from characteristics. Components were derived by bringing together similar characteristics. For example, "boundaries aren't so distinct", "allowance", "blurring of roles", "know others' role", "give and take", "interconnected", "acceptance of fuzziness in boundaries", "meeting of minds", "wonderful array of resources", "verifies position", and "building a common knowledge base" all were identified as characteristics. These characteristics were compared with each other in consideration of the context in which they were used and appeared to have similar properties. The identified characteristics seemed to illustrate team members' willingness to gain an understanding of each others' discipline and to allow an integration of skills and expertise to provide patient care. The characteristics identified seemed to describe the necessary behaviours for thinking and acting beyond one's own discipline. These characteristics were brought together to form the component, "blending of expertise". This label seemed to capture the substance of the interview data regarding team members' ability to combine their knowledge and skills and to encourage integration of knowledge and expertise.

Organizational structure. The development of the components was a messy stage and very difficult to organize. In order to organize the quotations, characteristics and emerging components, a format was developed using computer files, which were labeled according to the emerging component. A table was formed within the computer file and the relevant quotation and associated characteristics were recorded. The following is an example of the table format:

Table 2 Example of format for data analysis

Component	Quotation	Associated characteristic
Fuzzy boundaries	I think the willingness to have some fuzziness in the boundaries of our jobs, so that although we each have – we represent a discipline, there's still – our boundaries aren't so distinct that we can't – J. can't comment on somebody's social history and F. isn't allowed to comment on something that's happening in somebody's interest in recreation. So there's some ability to allow that fuzziness and for all of us to accept that.	Fuzziness in the boundaries Boundaries aren't so distinct Allow that fuzziness Acceptance

Running notes and memoranda. During the process of identifying characteristics and components, several analytical ideas occurred. These ideas were written down as memoranda along with the particular quotation or data that precipitated the idea. The investigator's ongoing electronic running notes served four purposes: (1) to log the progress of the study, (2) to provide an outlet for the investigator to write down any thoughts, ideas and impressions about the study, (3) to provide a place to record the memoranda and (4) to link the data to the themes.

Development of themes from components. The identified components then were integrated and subsequently themes were developed. As defined above, a theme captured and unified the nature or basis of the experience into a meaningful whole (DeSantis & Ugarriza, 2000). Associated characteristics and components were integrated to develop themes. For example, the component "blending of expertise" and the component "problem solving" were integrated to develop the theme "cognitive aspects". This theme was extracted and inferred directly from the data. The label "cognitive aspects" seemed to bring together the team members' behaviours that related to how they advanced their knowledge, integrated information, came to decisions, and how they were able to provide unified information for the patient and family.

It must be noted that both thematic and content analysis were used during the entire data analysis process to identify the themes and topics that lie beneath the surface of the interview data. Previous research findings were used to assist in the formulation of the themes. Five themes were developed: (1) dynamic aspects, (2) centrality of patient and family, (3) cognitive aspects, (4) social and affective aspects and (5) operational and structural aspects.

In summary, the example depicted above illustrates the procedure applied to the data in order to develop characteristics, components and themes. Later in the manuscript, the characteristics, components and themes will be described thoroughly.

Ongoing data analysis questions

During the process of identifying characteristics from the data, merging similar characteristics to form components, and integrating components to develop themes, several key questions continually were asked of the data: (1) How does the team describe the particular components?, (2) What precursor events occurred prior to the discussion about the strategy and/or component?, (3) How do the components or factors within the components relate to one another?, (4) Are there research findings to support or refute the observations and conclusions from this study? and (5) What are the behaviours that reflect the component and/or theme?

Insight into the data analysis process and the teams

The analysis process was similar to how one of the team members described the team intervention process. A Team C member stated that the best intervention that could be achieved was when all the factors were taken into account and meshed through. A serendipitous insight was that the analysis process utilized by the investigator was analogous to the processes occurring within a functioning health care team. What the team member described was exactly what the analysis process was attempting to do as well – to mesh through the characteristics, components and themes to finally show patterns of behaviours that could be operationalized to form a model of interprofessional health care team functioning and develop a preliminary framework for an assessment instrument. The word "mesh" seemed to describe the analysis process. One of the meanings of "mesh" is "a weblike pattern or construction", and a web is "an intricate pattern or structure suggestive of something woven" (Merriam-Webster's Collegiate On-line Dictionary). These definitions suggested the intricate, interwoven nature of the data analysis process, and showed how the stages intersected and layered on one another to shape a better understanding of interprofessional health care teams in action.

Concluding data analysis

While data analysis was an ongoing and continual process, levels of saturation occurred within the components. The characteristics were identified and sorted into components and some components were merged. At this point, no new characteristics were being found and the components themselves had become reasonably full, therefore saturation had been reached. As the components were integrated into themes, the data continually were re-examined in light of what was known at the moment each theme was contemplated. Although the analysis process appeared to have occurred in discrete phases, each phase naturally led to another based upon continual reflection, interpretation and synthesis. The data truly were woven throughout the various stages (i.e., identification of characteristics, similar characteristics being merged into components, blending of components, and integration of components to form themes), and ultimately led to a model of interprofessional health care teams and the development of a preliminary team assessment instrument. The resulting model and preliminary assessment instrument will be discussed later in Chapter Five.

Trustworthiness

It was important to ensure that the findings of the study fit the data from which they were derived (Sandelowski, 1986). Lincoln and Guba (1985) recommended the following criteria for establishing trustworthiness within a qualitative inquiry: credibility, dependability and confirmability, and tranferability. The following activities were undertaken to meet these criteria: (1) credibility - peer review and member check, (2) dependability and confirmability - audit of the data analysis process and audit of consistency, and (3) transferability - completion of a final report for review.

Credibility

A peer review strategy was utilized to ensure credibility. This required enlisting the involvement of a committee member who had extensive experience in the area of qualitative research to review field notes and transcripts to determine whether they were able to identify categories and themes within the data that were similar to the investigator's analysis. This strategy was used to help clarify the investigator's perspectives (Hammell, Carpenter & Dyck, 2000).

Member check was used throughout the study to enhance the credibility of the findings. During the interview sessions, the investigator asked probing follow-up questions, used responses from one individual, and asked others to comment on the response (Rothe, 1993).

The teams were re-visited for a follow-up interview. During this follow-up interview, participants were given an opportunity to clarify meanings of terms and to expand on topics from the first interview. The five participating teams received a verbal summary from the investigator regarding what was found during the first interview, and they were asked for their reactions to the interpretation and conclusions that had been drawn.

These activities were based on the theoretical premise suggested by Sandelowski (1986). Credibility of a qualitative study refers to a investigator's ability to present "faithful descriptions or interpretations of a human experience [so] that the people having that experience would immediately recognize it from those descriptions or interpretations as their own", or "when other people can recognize the experience when confronted with it after having only read about it in a study" (Sandelowski, 1986, p. 30).

Dependability and confirmability

The examination of the data, interpretations and recommendations can establish not only the dependability of the data but also the confirmability of the inquiry. Both dependability and confirmability can be accomplished simultaneously during an inquiry audit that examines both the process of the interview and the categorical information.

Sandelowski (1986) suggested that auditability should be the criterion of rigor relating to the consistency of the qualitative findings. Auditability was achieved when a description, explanation or justification was provided for: (1) how the investigator became interested in the topic, (2) how the investigator viewed the issues studied, (3) the purpose of the study, (4) how subjects were approached to be included in the study, (5) how the subjects and investigator influenced each other, (6) how the data were collected, (7) how long data collection lasted, (8) the context for data collection, (9) how the data were reduced for analysis and interpretation, (10) how various components were weighed, (11) how certain components were included or excluded and (12) the techniques used to determine applicability of the data.

Audit of data analysis. The audit began after the post-verification sessions. The data analysis process followed the process outlined by Rothe (1993) (Appendix H). All information was cross-referenced and organized so that it could be linked back to the original sources. The auditor was an individual who was familiar with qualitative research and the literature on interprofessional health care teams. This person was asked to examine the process by which the data were collected.

The investigator completed written field notes for both the observations and interviews. A field note reporting form was used to enhance the data that were recorded during the taped semi-structured interviews (Appendix G). The investigator ensured that the various research materials (i.e., memos, data display charts indicating coding instructions, and the actual placement of the data into characteristics and components) were available. The auditor reviewed the identified components and themes to determine the dependability and confirmability of the data analysis process. The auditor and investigator engaged in feedback and negotiation to complete the process. The auditor provided both a written and verbal report to the investigator's committee (Appendix I).

Audit of consistency. As dependability and confirmability referred to how consistent or reliable the data were, the auditor reviewed a sample of the findings. The investigator provided the auditor with two original transcripts that had highlighted sections corresponding to a number of identified themes. The auditor was provided with a list of possible themes to match to the highlighted sections. Extra themes were provided as well to prevent matching through the process of elimination. There was more than one highlighted section for any given theme. It should be recognized that people interpret information differently, and that any of the various interpretations "could potentially be correct" (Strauss & Corbin, 1998, p. 60).

The activities for dependability and confirmability were based on Lincoln and Guba (1985). Dependability takes into account the concepts of stability, consistency and predictability. For dependability, the investigator took into account both factors of instability and factors of design-induced change. Confirmability referred to the characteristics of the data and how reliable, factual, or confirmable they were.

Transferability

A transcript was completed by the investigator, and this was compiled with the investigator's written field notes into a final report. This final report will be available for review by other potential investigators. Transferability refers to the ability of the original investigator to provide sufficient descriptive data to ensure that similar judgments can be made by people seeking to make an application elsewhere (Lincoln & Guba, 1985).

CHAPTER FOUR: FINDINGS

This chapter consists of four sections. The first section describes the profiles of the five teams that participated in this study. The purpose of this section is to provide an understanding of the environmental context. The second section provides information regarding the use of analogies and stories to describe interprofessional health care teams. During the second interview sessions, team members were prompted to use stories to describe how their team used strategies and various work procedures to function. The stories and analogies that were collected provide insight into how these particular teams function. The third section provides an overview of the how the themes were developed. The fourth section presents the identified themes. The five identified themes are presented according to the identification of characteristics, formation of components, development of the theme, corroboration with previous literature, and demonstration of the theme. The identification of the components and themes was part of the substantive stage of the construct-oriented approach. The components and themes assisted in developing a description and definition of the construct of interprofessional team functioning.

Participating team profiles

As indicated in Chapter Three, five teams agreed to participate in this research project. The profiles of the various teams are described in detail below.

Hospital setting

Team A

Team A was composed of a nurse coordinator, two physical therapists, two occupational therapists, pharmacist, psychologist, recreational therapist, social worker and physician. The team members' years of experience on the team ranged from one and a half years to ten years.

Team A accepted patients with chronic conditions. The team offered a three-week educational program, and a patient could enter the program at the beginning of any week to complete the three-week cycle. The main components of the program were education, teaching and self-management. When a patient was referred by a physician to the program, the patient automatically would be seen by occupational therapy and physical therapy for individual assessments. The team was able to refer the patient for individual assessments to recreational therapy, psychology and social work depending on the patient's needs. All of the team members from the various disciplines taught classes for the patients during the three-week educational program, but not all patients were seen individually by every team member. One of the interesting aspects of this team was the recognition of how the team sought feedback from their patients. These patients were not cognitively impaired so they were able to provide team members with pertinent and relevant information to improve their own care and the overall patient program. This patient population also was able to provide the team members with positive comments and acknowledgements, which was very reinforcing for the team members and enhanced their cohesiveness.

Team A members struggled with similar challenges as other teams in terms of scheduling conflicts, team members belonging to other teams, and lack of research time, but one of their unique challenges was their limited ability to control the type of patients accepted into the educational program. Essentially the team members attempted to accommodate any referred patient who was suffering from the condition in question, but their program was a set educational program so problems arose if patients required increased individual discipline-specific time. Although there were definite limitations with the format of the program, it seemed that the team members attempted to place the needs of the patient foremost.

The composition of this team changed between the initial interview and the verification session. Two team members (1 occupational therapist, 1 physical therapist) had either moved or transferred to other positions outside of the team.

Team B

Team B was composed of a nurse, physician, pharmacist, occupational therapist, physical therapist, social worker and pastoral care. The number of years on the team ranged from four months to nine and a half years. Unfortunately, the pastoral care team member was unable to be in attendance at either the initial interview session or the verification session. At the verification session, the team members present were the nurse administrator, occupational therapist, physical therapist and social worker.

These team members had developed a number of innovative and creative ways to deal with some of the stresses (i.e., lack of time, nature of cases) that could affect team functioning. Some of the team members met each week to reflect on the work that they did, explored how that was affecting them as individuals, and how it potentially could affect the team. This team faced a number of changes and losses including the death of the team coordinator, who was a colleague and friend, however they continued to focus on their work and care for the patients. The team expressed they had created a number of ways to honour this individual, such as a memory book, a quilt, a quiet room and healing circle meetings. The team also indicated that they had received wonderful support from the entire health care organization. One of the newest team members who had not known the team coordinator commented that she felt that this event solidified the team and pulled the newest members onto the team more quickly:

> But you know what? I honestly think that that was one thing that pulled the team together. It even pulled *us* in, because we could be the support, so it made us *more* part of the team. It certainly — everybody sharing and going through it together, being kind to each other as far as they could in their own grief. I think that was — it's terrible to say, but I think it was really good for the team.

Another team member likened this team experience to a functional family where everyone worked together and provided latitude in order to get through the difficult situation.

There was recognition that team members had endured a number of changes and losses, but with each adverse situation there seemed to be rallying of support and a sense that the team would survive. A team member described the team as somewhat of a hodge-podge that definitely had a number of strong qualities, but the team experienced a number of disorganized times as well. The team members had the ability to embrace these disorganized times and acknowledge that a particular situation may not have a desirable outcome, but the team member was willing to openly discuss the negative situation. The ability to be open with each other about mishaps or ways to improve was viewed as a real strength of the team.

Team C

Team C consisted of six individuals who had been on the team from four to ten years: a social worker (coordinator), psychologist, speech-language pathologist, physical therapist, occupational therapist and program aide. The team indicated they would not be together as a team in the fall (Sept 2000), as the structure of the programs within the hospital was being changed and reorganized. Essentially, the present team structure was being dissolved.

This team worked with very complex patients and their families. It was an entry program into a number of other ongoing programs at the hospital. Typically, the patient and their family were referred to this program following an assessment of the patient's abilities. Many of these families had no previous experience or understanding of the health care system, and the team recognized that they needed to prepare these families to become familiar with the system. Intervention was conducted with the families in a group format, at times with the patients present and at times without.

Team E

Team E was composed of two physical therapists, a prosthetist, occupational therapist, nurse, recreational therapist, physician, psychologist and social worker. The number of years members had been on the team ranged from one to fifteen years. The team had experienced consistency in its membership over the past couple of years, which was reported to have made a positive difference. A number of the team members were only part-time members, as they had other obligations either to other health care organizations or other teams within the organization.

During the first team interview, one of the team members who had recently re-joined the treatment team after an absence of about three years described a definite change in how the team presently functioned. He explained that many of the team members had remained the same, but he perceived that the team was functioning differently. He highlighted how some interpersonal issues and a lack of understanding regarding discipline-specific roles had previously adversely affected the team members' ability to provide integrated care. A reference was made to previous senior team members controlling the way other team members contributed to patient care. There had been a change in the style of medical leadership, which seemed to result in improved team functioning. Another team member indicated they now felt comfortable presenting a dissenting opinion and felt like they were truly participating as a full member of the team. Overall, there seemed to be an increase in professional respect for others which was evident in this team member's summation of how team members currently were viewed on the team:

> I know what you do, and I know what we do, and I want you guys to exercise your ability to the best of your ability

The team members also described a number of other changes that had occurred, such as an automatic referral process and changes in how the various disciplines viewed their ability to contribute to patient care. One of the team members felt that his predecessor had not sought to be part of the team and had not actively tracked what patients may have needed for intervention services. This lack of actively offering services contributed to perpetuating a pattern of directing when and which other disciplines should be involved. The team members certainly articulated that they felt the current team had a different perspective. They expressed a greater openness with each other, an ability to have a differing opinion or view, and an ability to execute their professional role.

Team E members provided this investigator with the most information and insight about how health care professionals needed to accept and allow crossing of professional boundaries or integration of expertise. Traditionally, health care providers had been trained to function autonomously and had been very uncertain about integrating their discipline-specific knowledge, but the Team E members admitted that it was imperative to have different disciplines involved in patient care. Quality patient care was viewed as the bottom line for this team. The team members' understanding of their common purpose and ability to develop the right mix of skills led to a sense of commitment and trust among the team members. This commitment and trust were seen as ensuring that there was mutual accountability within the team. Team members understood they were not able to draw a line in the sand and say that, "this is where my part ends". They needed to work together for the betterment of the patient's health.

Community setting

Team D

Team D was composed of nurses (e.g., administrative, front-line), a recreational therapist, occupational therapist, physical therapist, social worker, pharmacist and physician, however the physician's time had been limited so he was no longer regularly attending the morning team meetings. The team had been in existence for about four and a half years. The number of years that the team members had worked together on this team ranged from one and a half years to four and a half years. There were a number of part-time staff and some of the staff had assignments with other teams within the overall health care organization:

> the workload because the team takes care of two centres, and it's hard for them to have some say. Sometimes when we have a number of admissions at the same time and our people are getting heavier care and heavier care, trying to manage the workload between the two sites can definitely get stressful. You do find with this team, we do have a large number of admissions, and they're heavy-care admissions, all at the same time, you can sense the stress

The team members met on a daily basis for about one and a half hours to discuss patient care needs and they also stressed that they met frequently throughout the day to strategize, inform or share information. The team designated a key contact person to liaise with the patient and family members. The team members' approach with each patient was entirely dependent on the patient's needs and desires.

The team members really seemed to believe that they were part of a well-functioning team:

> when I was first hired, I was told, "Now this is going to be a real team". I'm thinking, "Yeah, right! And pigs fly!" because I'd been hearing these comments about teams for a long time in articles, and in fact, it turned out it was
>
> Where I walked in, Day 1, here — appreciation. I think that's part of it. We've all been on teams — I think most people here have been on other teams in health care before this, and it wasn't like this. Coming to this was like [sighs]. We've been talking about this for years, and now it's my lucky time to see it happen

During the team interviews, Team D members described that they were able to share information with other team members. Members were expected to take responsibility for their actions, but the team members were definitely there to support each other. The perception of this team was there was an amazing wealth of information and expertise "packed in this room" that was being applied to providing quality patient care.

Overview of teams and work settings

An interesting aspect of these participating teams was that each team seemed to have experienced some element of stress or conflict. For example, Team A and E members described changes in leadership styles and adoption of different referral processes which affected their performance. Team B members had recently experienced the death of a colleague and were dealing with the impact of losing their team leader. Team C members were facing re-organization and their team was likely going to be dissolved in favour of a new program structure. Despite these apparent challenges the team members seemed to understand their purpose as a team. They recognized that their primary purpose was to provide intervention services for patients and their families who had complex problems and needs. Patients who were experiencing difficulties, who were fragile in nature, and who were unable to be treated through a traditional single-discipline model were generally referred to these participating teams. The team members had an undeniable commitment to each other, acceptance of each other, and integrated and coordinated the various activities in order to accomplish both the team's goals and the patient's goals. These real-life working interprofessional health care teams were able to provide some potential quantifiable indicators for successful team functioning.

Use of analogies and stories to describe interprofessional health care teams

As discussed in Chapter Three, data were obtained through observations and interviews. The initial observations were conducted to familiarize the investigator with each team and observe some typical team activities. Following each observation, a semi-structured interview was conducted. The data gathered during the first interview were briefly examined, and it was found that team members generally described their team functioning using theoretical statements, such as "we communicate well" or "I think we all respect each other". It was felt that the team members were executing deeper level activities or higher thought processes and were not able to articulate in detail exactly how their team was functioning. From the observations and the preliminary analyses of the first team interviews, it seemed team members were, in a sense, challenging the conventional wisdom of teams or expanding on what had been described in the health care team literature. Based on this opinion, the investigator decided to use the follow-up interview sessions to verify some of the information obtained during the first interview. However, the primary intent of the second interview was to obtain concrete examples of exactly how the team was functioning. Team members were prompted to "tell a story" to inspire them to move beyond theorizing to practically describing how their team provided patient care.

It was difficult to articulate the skills that were carried out on a day-to-day basis or within a clinical moment to ensure optimal team performance. Polanyi's (1967) famous quotation "we know more than we can tell" suggested that much of what individuals know about their particular job or task remained unarticulated and known only to the person with that skill. Knowledge that cannot be fully explained even by an expert and transferred from one person to another was referred to as tacit knowledge (Madhavan & Grover, 1998). Katzenbach and Smith (1993) had suggested that team stories may help to set the tone for understanding the elements of team performance that cut across different kinds of teams. Therefore, it was hoped that if team members could use analogies or stories to describe the activities and behaviours necessary for providing patient care within a team environment, a clearer understanding of an interprofessional health care team and the necessary components for team functioning would become apparent.

Use of analogies

Individuals will often use analogies to express a relationship or interaction. When looking at difficult topic areas such as interprofessional team functioning, the use of words to describe what is occurring is often inadequate to fully explain the pertinent factors and/or interactions. Explanation of team functioning seemed to be facilitated if team members could think of some way to compare their team to another entity. The use of analogies often helped to move from the source that was a familiar piece of knowledge to the target that was a less familiar piece of knowledge. Analogies assisted in mapping the known features from the source onto the target. This mapping process made it possible to predict the type of features one could expect to find, and it was a powerful mental tool to discover new things. Thus, the major advantage of an analogy was that it allowed a person to go beyond the superficial (Dunbar, 2000).

In their book, Health Care Teamwork: Interdisciplinary Practice and Teaching, Drinka and Clark (2000) discussed how health care providers could use pictures, metaphors and myths to express their team experiences. These authors explained how a member's view could affect the team and how these mechanisms could be used to help the team grow. Whether one used a picture, metaphor, myth or analogy, it seemed that the use of these mechanisms helped team members to discover and reflect on their team experience.

Teams in this study primarily used analogies or metaphors to assist in their explanation of how their team worked. One team likened how they accomplished their work to a coffee party:

> **Team C:** But we do that, and you get to that, and that is *hard*. You have to do your job, right? You have to do it and it's hard. But before, I think we spend a lot of time in here — I think somebody walking in would almost think it sounded like a *coffee party*. They might think that, but at the same time, you're still working it all out — "How do *you* feel about it, this whole situation, and how tough it is" — it might remind you of how lucky you are and blah blah blah — and then you get all that worked out in here, and then you can go do your tough job.
>
> **Team C:** ...dedicated team. and I think the comment about the *coffee party*, I think that's true, and I think that's really healthy, but I think it's based very much on we know each other well enough to do it that way. So it doesn't look like a whole bunch of work, and yet it really is.

There were likely several images associated with a coffee party. Generally, coffee parties were associated with a group of individuals who enjoyed each other's company and gathered at a particular location for lively conversation about topics influencing their lives. A coffee party usually implied light-hearted topics, but there was an element of support that this investigator believed the team was attempting to portray by associating "coffee party" with team functioning. This team had developed a commitment, rapport and comfort with each other that provided a supportive framework for dealing with intervention issues.

Another analogy related to how receptive the teams were to new members:

> **Team E:** I think that's bottom line - willingness of the team member to readjust and move. It's almost like we have a pool of water, where you have no trouble — water comes in — it merges in. The rest of the water has to give way and allow that to come in. It's not just a bunch of marbles. You know, a marble will bounce right back out. You have to slide it in gradually so it doesn't bounce right back out, kind of thing, if I can use that analogy.

When looking at the various properties of water, an interesting fact was that water was attracted to other water and this was called cohesion (Seavey & McCalley, 1998). Water has an attractive force that gives it the cohesive properties. Team cohesion has been discussed within the literature as an important element of team functioning. While the team member did not explicitly use the word "cohesion", the analogy of the pool of water accepting other water and marbles not accepting other marbles provided a clear characteristic for team functioning – how well new team members accepted one another and one another's ideas.

The use of visual imagery or analogies was one way that the team members tried to describe the important components of interprofessional health care team functioning. The use of storytelling was also encouraged during the second interview sessions to assist health care providers in finding a means to adequately depict the types of activities and behaviours members engaged in to fulfill their patient care mandate within the team process.

Use of stories

An assumption was made that if the teams focused on a particular patient or situation in which they felt they were demonstrating "healthy team functioning" and told the story or described the specific situation, it would be possible to capture some of the tacit knowledge regarding interprofessional team functioning held by the team members. It was anticipated that the team members might reveal a memorable story or specific situation that may unveil a greater understanding of the components necessary for team functioning.

Examples of stories

Team A

During the second interview, Team A members described a particular patient problem which seemed to highlight how their team was able to function together. This patient presented with the primary condition for referral to the team as well as other multiple problems, including lack of housing and a previous brain injury. Team A members recognized that this patient required assistance in other areas, so other professionals were contacted to provide intervention services. Throughout the description of how Team A members interacted and provided intervention services for this patient, a number of team functioning characteristics were identified. Team A members reported discussing the care of the patient both during rounds and outside of the formal meeting time. The team members ensured that other staff were aware of how to approach the patient and to direct the patient back to core team members for information about his care. The health care providers indicated that the information and management plan for this patient was developed by all of the Team A members. As one of the team members reflected back on what the team had done, she commented that she knew the team members frequently spoke to each other about this particular patient throughout the day. The team members highlighted how they conferred back and forth with each other about the patient's care. This ongoing communication and management plan among the team members ensured that everyone was aware of the intervention plan and helped keep the patient feeling positive about his care:

> Again, hearing that information from the team and being able to communicate it back and forth, and then be able to talk with him, so he knows that we all talk and we're all here trying to help him, that it's seen as more positive, and we're hoping that he'll be more positive about it.

Another patient situation where the team demonstrated healthy team functioning was when they dealt with a patient who seemed to have unrealistic expectations about his ability to return to work. The team members described how they maintained their approach with him but respected his needs, and the patient was sent to another agency that would help him to return to work. Although Team A members suspected that it would be unlikely that this patient could return to work safely, they did not place barriers in front of him and this seemed to greatly help his emotional and psychological status. With this situation, the team highlighted the importance of keeping the patient's needs central and respecting the patient's decisions.

Team C

Team C members related a story about a family whose members had differing expectations of a patient's abilities. The family seemed to perceive the patient as completely normal in all respects, but the patient was developmentally delayed and this had an impact on her fine and gross motor skills and communication skills. The speech-language pathologist was concerned about the lack of the patient's communication skills and tried to encourage the family to consider a form of augmentative communication. The social worker needed to trust the ability of the speech-language pathologist and to support her. The speech-language pathologist commented, "So the team really does do a lot of 'yup, yup, that's the right thing, based on your judgment'. They're supportive." During the re-telling of this story, another important factor was revealed. The speech-language pathologist indicated the need for input from the other team members in order to develop a long-range plan for the patient – "I don't ever remember thinking, though, that I ever had the best ideas or long-range plans, if you hadn't given your two cents worth." The social worker on the team summarized the experience in the following way:

> that created tension for the team. But I think that's where the value-added is for the team, too, is that you're putting your two cents worth in. You're sort of saying the whole is bigger than the sum of the parts. I think that that's true. Because you're getting input from H. or L. or whatever, *you* can be more sure that you're on track. Then I think it's a confidence issue. Then when you're talking with the parent who isn't there yet, you still have your goal in mind. They don't shake your goal. Do you know what I mean? If you were less certain about what you thought, you might buy in more to their view of things or whatever, and then give less by way of information, especially when — like those parents weren't really wanting to accept it at all, and could be quite abrupt about it at times. I think it gives you more solid clinical grounding when you talk together than any one of you would have alone, especially with a parent who doesn't want to buy into anything

This quotation illustrates how the team practices in action. A number of key team characteristics were identified – tension was created and the team was enabled, team added value, team gave support, team provided additional information/knowledge, team provided confidence for members and team provided backing (united front). The strategy that seemed to be employed by the team members was to "talk together", which ensured that everyone was on the same track and providing information for the family to assist in realistic goal attainment for the patient.

Team D

Team D members examined the way in which they managed a particularly demanding and difficult patient. This patient was a very negative individual and could easily influence how the other patients would react to staff or the intervention program. Team D members realized they needed to remain sensitive to this patient's needs and at the same time develop a consistent communication plan that would ensure that he continued to receive an appropriate level of care without disrupting the rest of the patients within the program. The team members described how they devised specific communication strategies that all the program staff were made aware of and could use consistently with the patient to defuse any difficult or negative situations. These team members ensured that any communication or issues about this particular patient came directly to them. They established specific people that the patient could approach if he had a concern or problem, and the team members ensured that all program staff were aware of the messages that were to be given to the patient and his family. The team members connected with each other and all of the program staff to ensure that everyone was comfortable with the communication plan and strategies and were prepared to deal with the patient in a sensitive, yet firm manner:

> Just by knowing what the team had decided about things, it made it easier to defuse the situation or to know how to handle a situation and redirect him or tell him it's not an appropriate time to bring these things up. It doesn't affect everyone here, and we could deal with it later with either X or Y.

This particular patient situation highlighted how important it was for the team to bring issues to the table and work together to develop an action plan that would best meet the patient's needs. This example illustrated several key team characteristics, such as the need for support, being able to bring issues to the team, providing strength to its members, giving confidence, and providing direction for the team members in how to deal with the patient. The patient's needs continued to remain central and the team members developed strategies to meet those needs.

Summary of use of analogies and stories

Generally, the first interview transcripts provided a theoretical overview of the activities/factors that each team perceived as being critical for interprofessional team functioning. The use of theoretical statements did not depict the key components of team functioning or the processes that the team members went through to discover creative solutions for difficult patient problems. However, further probing during the follow-up interview sessions and asking team members to tell a story about how they functioned allowed inquiry into the properties, knowledge, skills and attitudes necessary for successful team functioning.

Stories, analogies and/or pictures of teams in action helped the investigator to develop a better understanding of the components necessary for interprofessional team functioning and helped to decrease the confusion regarding interprofessional teamwork. During the analysis process the following themes were identified: (1) dynamic aspects, (2) centrality of the patient and family, (3) cognitive aspects, (4) social and affective aspects and (5) operational and structural aspects. Identification of these themes was the result of careful scrutiny of the original transcripts and continual comparison and contrast of this study's findings with literary findings. Upcoming sections will describe more closely the logic and the decision-making process underlying the development of the themes.

One of the team members stated:

> I think back to that comment about the whole being bigger than the sum of its parts. I think you get a lot more value-added when you have a healthy functioning team doing something, as opposed to a bunch of individuals doing it. I think that's hard to tease out. It's hard to tease out, but it's really, really important. I think it's true.

This quotation indicated that the teams had a notion that team practice has not been adequately captured within the literature and that it was very difficult to sift through and fully understand all that was happening when team members interacted with one another to assess and treat a patient. It was anticipated that using the actual words of the team members would reveal the critical components of team functioning and how interprofessional health care teamwork is lived out in practice.

Overview of development of themes

As the first and second interviews were analyzed, the investigator continually stepped back from the data and asked, "What were these team members trying to tell me?" In the methods section, it was discussed that the following questions were used during the data analysis process to probe for an improved understanding of how these particular teams functioned: (1) How did the team describe the particular components?, (2) What precursor events occurred prior to the discussion about the strategy and/or component?, (3) How did the components or factors within the components relate to one another?, (4) Were there research findings to support or refute the observations and conclusions of this study? and (5) What were the behaviours that reflected the component and/or theme?.

This ongoing questioning and reflecting on the data resulted in going beneath the surface of the interview data and discovering what activities and behaviours were important for interprofessional team functioning. As stated earlier, thematic and content analyses were used to explore the data. Themes were developed based on the team members' responses to the interview questions, the stories team members told, and the analogies team members used to describe their interprofessional team functioning. Each theme will be described according to the identified characteristics, components formed from the characteristics, themes developed from the components, and the extent to which the theme had been described in previous literature, including research findings. The reader will recall that characteristics were the identification of distinguishing properties (ideas, experiences, processes) of interprofessional team functioning through use of idiomatic phrases and key words expressed by team members. The key words or phrases were meant to reflect the substance of what was being portrayed. Characteristics relating to similar content were then brought together to form components. Components similar in nature were blended together. Once the components were identified, they were then integrated together and subsequent themes were developed.

Presentation of identified themes

Five themes were identified from the components: (1) dynamic aspects, (2) centrality of patient and family, (3) cognitive aspects, (4) social and affective aspects and (5) operational and structural aspects. The themes captured and unified how the team members were describing the interprofessional health care team experience into a meaningful whole.

Although the participating health care teams were dynamic entities that included the health care context/setting, composition of the team, complexity of the patient and the health care problem of the patient to be solved, it was felt that certain commonalities described by the team members could be identified and used to form an increased understanding of the important components that affected team performance and made teams successful. The commonalities of team performance being described by the participating team members led to the development of key components and themes. These identified themes helped to formulate a richer description and explanation of the processes that characterize interprofessional health care teams. The identified components and themes can be thought of as: (1) the requisite knowledge underlying interprofessional team functioning, (2) the repertoire of skills needed by team members to perform as a team and (3) the attitudes that foster team functioning. This delineation of components and themes was similar to how Cannon-Bowers, Tannenbaum, Salas and Volpe (1995) described team competencies. These authors indicated that specifying team competencies was more complicated than specifying individual competencies, as teams possess competencies that transcend individual team members and have a collective influence on performance.

Although it was difficult to isolate the knowledge, skills, attitudes, behaviours, relationships and circumstances essential for team functioning, the identified themes and associated components presented an approach for demonstrating how a health care team functions. The organization of the data into five themes provided an expanded perspective of how interprofessional health care teams function. The participating team members' responses confirmed information already present in existing literature regarding successful team performance. However, the observations and interviews with the real-life health care team members in this study led to a clearer delineation of how teams functioned and an understanding of the knowledge, skills, attitudes, behaviours and relationships, and the circumstances that need to prevail in order for interprofessional health care team functioning to occur.

Ultimately, the themes and components were assembled together into a model of interprofessional health care teams. This model is illustrated in Chapter Five on page 205. In the following sections, the five identified themes and associated components will be described and discussed in greater detail. Understanding these themes and components may help other teams and team members determine how to identify areas for improvement in an existing health care team.

Dynamic aspects theme

Analysis of the team members' dialogue, continual questioning of the data, bringing together of related characteristics and integration of components eventually led to the emergence of the theme, "dynamic aspects". Interprofessional health care team members attempted to deal with the unique circumstances of each patient and their family, however there were certain common strategies, processes and activities which enabled team members to address patients' health problems. As the team members described their activities and interactions with each other and with patients and their families, an overarching theme of dynamism seemed to be interwoven throughout all of the other components and the four other themes. It was apparent that many of the team members had experienced some type of transition, change or movement within the team environment. One team member described dealing with patient problems as "a complex, dynamic, moving kind of symptom" that required the entire team to respond optimally to the patient's needs.

Identification of characteristics from data

The transcripts were examined to identify the keywords and phrases used by the participating team members to describe their team functioning. The following story and quotations are a representative sample of the characteristics the investigator identified during data analysis. Team E members shared a story about how a change in leadership style improved the team's ability to respond more holistically and comprehensively to patients' needs. One of the team members described that under the previous medical leadership, a fixed and rigid style had been applied to patient care. This perspective limited each team member's ability to execute his professional role and develop an integrated approach to patient care. When there had been a change from this style of medical leadership to non-medical coordination, the team members felt they were then able to fully participate on the team and work together to provide intervention services for the patient population. This example illustrates that when the team members experienced a change in leadership style, a more fluid and comfortable team experience resulted. Below are several quotations from participating team members that reflected a sense of movement, change or transition. The italicized keywords and phrases in the following quotations indicate which words were used to identify the characteristics:

> **Team A:** I also think that as a team, we *make those changes* quite easily. So to have somebody come in that's more of a X challenge, we might just postpone attendance to Y, because right now their energy is concentrated on moving their function...
>
> **Team B:** It's a *complex, dynamic, moving kind of symptom, and it takes all of us.*
>
> **Team B:** I just thought – to me, this is not a static team, it's a *dynamic* thing, and we're constantly learning.
>
> **Team B:** That is a characteristic way of this team, is to *welcome a certain amount of change in people.*
>
> **Team C:** I think that's a real good point, though. I think it's an *appreciation, and we do it unconsciously all the time.* But there are instances where you have to identify it as "this is what we have to be doing here".
>
> **Team E:** Depending on the requirement of the case, then we all *need to move.* So we're not a static thing...

> **Team E:** It's really more by *evolution*, to some extent. I found myself *growing*, day-to-day, depending on the team, depending on the patient....
>
> **Team E:** ...'cause every *team changes as you have members change*. Each person comes in with different philosophy, different attitude, different perspective. As you add to your team, it changes the dynamic of the team a little bit...

The stories shared and the responses to the various questions revealed keywords and phrases, such as "change", "constantly shifting", "grow", "move around", "merge", "interact in different manner", "move up to next phase", "how the team operates and shifts", "letting go of own agenda" and "keep growing in relationship". The quotations and the list of various characteristics identified above were not a complete listing of all the identified characteristics but are provided as a representative sample of the types of characteristics that were identified.

Formation of components from characteristics

The various characteristics were then examined and compared to each other, and those relating to the same content and having similar properties subsequently were brought together to form components. Characteristics related to growing, developing, or evolving were brought together to form the component "transition". Transition is defined as "a passage from one state, stage, subject or place to another" (Merriam-Webster's Collegiate On-line Dictionary), therefore it seemed that this label would capture the types of activities or processes where team members progressed in their understanding of one another at a personal and professional level. Examples of the transition component included team members learning to adjust and adapt to one another, team members growing in their relationship with each other, and individual team members growing in their knowledge of their role and others' roles.

> **Team E:** If we see our team as something in evolution, then when somebody leaves, you're sad to see them go, but you also see Okay, so maybe it'll be somebody that does some of the same things, some different things. So it's up to us to figure out what that is, and then evolve.
>
> **Team E:** It's really more by evolution, to some extent. I found myself growing, day-to-day, depending on the team, depending on the patient, depending on the —. In patient care, there is something a little different about what is expected of me. It's true, they expect the interaction I have through the members.
>
> **Team C:** I think it's something that grows, that you have to just be there and watching that person and seeing what they do and gaining respect for them, and letting them watch you.

The characteristics brought together to form this component seemed to have a sense of continual progression, growth and development.

Characteristics related to altering team members' perspectives, changing treatment approaches or changing roles were brought together to form the component "change". Change is defined as "to make different in some particular way" (Merriam-Webster's Collegiate On-line Dictionary), therefore it seemed that this label would capture the types of activities or processes where team members experienced a definite transformation in a leadership approach, referral processes or intervention approaches. One example of the change component was a modification in leadership styles within Team E. These team members reported that the leadership of the team had changed from a medical leadership style to a non-medical coordinator leadership style. Another example is team members altering their interactions or interventions with patients depending on the input from other team members.

> **Team A:** ...So I think it's a matter of *changing your perspective* of the patient, not just as an X patient but definitely more a Y patient who cannot control their behaviour...

The characteristics brought together to form this component seemed to demonstrate a definite alteration in an approach or process.

Characteristics related to moving or movement of the individual team member, patient or team as a collective whole were brought together to form the component "movement". Movement is defined as "a series of organized activities working toward an objective, also: an organized effort to promote or attain an end" (Merriam-Webster's Collegiate On-line Dictionary), therefore it seemed that this label would capture the types of activities or processes engaged in by team members. These health care practitioners seemed to shift their interactions with one another or the patient and his family depending upon the needs. Examples of activities that ensured team members were working toward integrated patient care included keeping each other informed regarding the patient's status, integrating discipline-specific information into the patient's overall treatment plan, and moving or shifting from an individualistic view to pluralistic views.

> **Team E member (1)**: Depending on the requirement of the case, then we all need to move. So we're not a static thing that sits right in this corner of this cube.
> **Team E member (2):** No, we're constantly shifting.
> **Team E member (1):** We are actually, because of the situation demands that we need to move up to the next phase or interact with the other person in a different manner. And it's always interacting, always moving. It's dynamic, it's not static.

A Team C member referred to the fact that her team often functioned unconsciously as a team, but in more challenging cases the team members consciously stated what they were doing, which was performing as an interprofessional health care team:

> I think that's a real good point, though. I think it's an appreciation, and we do it unconsciously all the time. But there are instances where you have to identify it as this is what we have to be doing here.

From this quotation, it was inferred that team members might sometimes consciously move into functioning as a team. The investigator did not believe that this quotation indicated that team members necessarily move in and out of functioning as a team, but there may be specific situations or patients that cause team members to actively move or shift in identifying how the team will function in this particular circumstance. The characteristics brought together to form this component seemed to demonstrate that team members moved from a traditional discipline-specific practice to an integrated team practice. Team members also seemed to move depending on the needs of the patient and his family.

The three components, "transition", "change" and "movement" were then integrated into one theme, "dynamic aspects".

Development of theme from components

Dynamic is defined as "of or relating to physical force or energy; marked by usually continuous and productive activity or change" (Merriam-Webster's Collegiate On-line Dictionary). The components integrated to develop this theme depicted a certain level of energy or synergy that was created among the team members, patients and families to ensure successful interprofessional team functioning. "Dynamic aspects" was seen as a theme that unified the various team activities and team members' knowledge, skills, attitudes, behaviours, relationships and circumstances necessary for team functioning.

When examining the data and trying to bring meaning to the team members' experiences, it was evident that team members were in transition, changing or moving depending on the needs of the patient and his family. As the team members responded to the interview questions regarding interprofessional team functioning, it was found that they were growing, developing, evolving, changing, shifting, and moving based on their interactions with other team members, patients and their families. There needed to be a willingness to make changes, adopt different treatment approaches, move around and merge with the patient to provide quality care and integrate team activities. For example, a member of Team A explained they had to modify their educational treatment program for certain patients. There were times when patients would be referred to the educational treatment program having needs that could not be adequately addressed through a group focus and required an individual treatment plan. Team A members confirmed the importance of being a dynamic team that was able to respond to individual patient needs. A member of Team B indicated that teamwork was not a simple list of recipe directions but required people to relate to each other, talk to each other and grow in their relationships. If these activities could be accomplished, this would keep the team moving and functioning.

> I think it's a lot to do with the commitment on the part of each person to other people. Again, it's not something you can throw in a recipe and in a box. But if you come to work with a commitment that I want to get along with these people, I want to relate to these people. I'm not going to be satisfied if we're not relating well, then things keep moving, because you keep talking, you keep growing in the relationship.

By combining the components (transition, change and movement), the resulting theme captured the strategies, processes and activities that the team members described as being necessary to provide patient care.

"Dynamic aspects" also was seen as an overarching theme. The idea of transitioning, changing and moving certainly was evident within the contexts of the other identified themes. For example, team members needed to evolve or grow in their relationships with each other. The idea of understanding each other is further explored under the theme of "social and affective aspects". Patient referral processes changed in order to improve team functioning, and this notion is further explored under the theme of "operational and structural aspects". The team members described how they moved depending on the situation or a particular patient's needs, and the idea of team members responding to patient needs is further explored under the theme of "centrality of patient and family". Along with this type of movement, there also was a definite growth and advancing of knowledge that occurred among the various team members to address patient care needs, and this idea is further explored under the theme of "cognitive aspects". Again, it can be seen how transition, change and movement are integral components within all of the identified themes.

Corroboration of theme from literature

The development of this theme, "dynamic aspects", took into account the previous literature, including research findings. Cannon-Bowers and Salas (1997) indicated that teams in private and public sectors were required to perform complex, stressful and hazardous tasks, many of which were dynamic in nature. This means that team members were required to rally all of their resources and adapt quickly to the different conditions encountered.

It has been accepted within the team literature that there are stages of team growth and development. One of the most commonly cited stages of team development included forming, storming, norming and performing (Tuckman, 1965; Zenger, Musselwhite, Hurson & Perrin, 1994). Manion, Lorimer and Leander (1996) added an additional stage called transforming. Drinka & Clark (2000) depicted five stages of development and decision-making: forming, norming, confronting, performing and leaving. Regardless of the labels used to describe the various stages or phases of team growth and development, it has been proposed and generally agreed that team members move through these various stages or phases to establish team functioning.

Most of the teams participating in this study would have moved through these stages or phases of team growth and development, and at the time the interviews were conducted the teams seemed to be in the performing stage. At this stage the differences of each team member were recognized. Members worked together in constructive ways to achieve common goals, and trusted each other to view conflict as normal and as an essential part of further team development (Drinka & Clark, 2000; Manion, Lorimer & Leander, 1996). A striking difference between the stages described in the literature and how the team members described their respective team functioning was the emphasis placed by participating team members on patients and their families. The way in which the team members moved in and out of situations, changed team processes or developed their knowledge was dependent on the patients and their families' needs. This ultimate focus on patients and their families ensured that the team members were performing the necessary skills and activities to address patients' health problems.

Bergum (1994) discussed the importance of developing comprehensive knowledge for ethical patient care. She stated that comprehensive knowledge included three types of knowledge: descriptive knowledge (i.e., listening to description of symptoms), abstract knowledge (i.e., analysis and diagnosis) and inherent knowledge (i.e., lived meaning). Development of comprehensive knowledge for ethical care required three moves: (1) dominance to collaboration, (2) abstraction to context and (3) beneficence to nurturance. The shift from dominance to collaboration related to how the health care provider (e.g., nurse) involved patients in their care: (1) nurses assisted the patients to make self-determined decisions, (2) nurses engaged with patients so their entire self was involved and (3) nurses assisted patients in unifying the experience of their lived body, the living I, with the object body (Bergum, 1994). Bergum argued that collaboration was the only means of understanding inherent knowledge, and this form of knowledge was required for provision of ethical clinical judgment and care. "Life is experienced on many levels that are interwoven and interconnected, constantly involving each other in myriad ways, rather than as distinct parts that operate in or for themselves" (Bergum, 1994, pg. 74). The ways in which nurses engaged with their patients allowed them to focus on the unique aspects of individual patients and provide ethical care. It was through participation and collaboration that the comprehensive knowledge needed for ethical health care developed. That, in turn, resulted in understanding what the experience meant for the patient. Bergum stated "the nurse and doctor must move from technological reasoning of the scientific laboratory to the bedside, where tact and thought may bring forth new and necessary knowledge" (pg. 78). By moving through the development of this type of relationship with patients, fragmented care was lessened and a true understanding of the human experience was revealed.

This investigator believed that the participating team members were expressing concepts similar to what Bergum was describing in her article. Quality patient care or being able to address complex patient health problems required team members to move from an individual perspective to a pluralistic perspective, which was comparable to moving from dominance to collaboration as described by Bergum. From the participating teams' data, it seemed team members were articulating the importance of bringing people together and moving beyond cooperation or coordination of the individual disciplines. The teams in this study demonstrated the importance of moving beyond simple organization of team efforts to dynamic team functioning. The importance of team members being able to move as individuals and as a whole is illustrated in the following quotation:

> **Team E:**...think to be a healthy functioning team, first of all, each team member has to feel confident in their own abilities, and that you have to respect the other individuals. But I think, again, it gets — I think about this team and how we operate, and how we shift. We're able to shift and it's a good egocentric team, because what I think what we truly are is patient- and family-focused. It's not about us or who does it, it's about the patient getting the very best from this treatment team.

This team member recognized that ensuring that the patient received the best intervention services meant that team members needed to be dynamic in nature. As an entire team, the members could "shift" according to the patient and family's needs. The notion of advancing team members' knowledge and moving beyond organization of individual team member's efforts will be explored further in the section on "cognitive aspects".

Demonstration of dynamic aspects theme

Analyzing the data and determining what the team members were actually trying to say about their interprofessional team experience resulted in discovering new components and expanding upon components already identified in the literature. A sense of continuous and productive activity, growth, change and movement emerged from the data for the patient, individual team member and the team as a whole. This theme unified the components of transition, change and movement, and was interwoven among the other four identified themes.

As the team members described their experience on the team and how their team functioned, it was apparent that successful teams were dynamic in nature. Team members explained how they needed to grow and understand each other better, change a procedure or course of action, and move from an individual perspective to a pluralistic perspective to improve patient care. There was a central focus on the patient and family that relied on team members being able to be in transition, move and change. This dynamic nature of team practice was quite unique from what had previously been described in the literature. While stages of development and growth had become an accepted manner of illustrating how team members were expected to proceed through the various stages of team formation, there had been limited recognition or integration of the patient and family within these stages of team growth and development. Yet, the participating team members continually referred to how they must be aware of the patient and other team members, and how they must engage with these individuals in order to successfully create and maintain team functioning. Engaging and interacting with the patient and his family and other team members to carry out the team's mandate was similar to how Bergum (1994) described the need to move from dominance to collaboration. The move from dominance to collaboration permitted the health care practitioner (e.g., nurse) to become fully involved with the patient and know the appropriate ethical action to apply to the situation. The needs of the patient and his family contextualized the teamwork and encouraged team members to be in transition, change and move in order to provide care. The patient and his family seemed to be the foundation for interprofessional health care team functioning.

Centrality of patient and family

The second theme, "centrality of patient and family" emerged from the data as the primary reason for the existence of interprofessional health care teams. The participating team members strongly expressed it was patients and their families that drove the team process. Team members would interact with each other and with patients and their families to develop creative solutions to deal with the patients' complex health needs. All of the participating team members recognized that their common purpose was patient care, and although the patient was not necessarily part of the ongoing team, he and his family were the main reason for the team's existence.

Identification of characteristics from data

The transcripts were examined to identify stories, keywords and phrases used by participating team members to describe their team functioning. The participating team members provided examples or stories of how they worked together and integrated their practices to ensure patients and families were the central focus. Team C members shared that all of the team members held the common belief that patients and their families were their primary reason for existing as a team. The team members reported that interprofessional team functioning was not centred on isolated discipline activity, but rather on team members' interactions with patients and their families.

> **Team C:** Why are we doing this? And it just hit me — even though I knew this, it really hit me — it's never really been about hand movement or communication or behaviour. It's never been about those isolated little things. It's always been about what this [patient] does with his family that moves him along.

A Team B member provided an example of focusing on the patient and family. This team member contrasted her work with the team to her work with her discipline-specific colleagues in the pharmacy department. She described the work she did with the other interprofessional team members as "qualitative", which was believed to mean patient-focused. Her work as a pharmacist in the department was record-related or "quantitative" in nature, which was believed to mean discipline-specific focused. When she was upstairs on the unit working beside the other interprofessional health care team members, the focus was directly on the patient and not just on the dosage or type of medication. A member of Team E explained how patients benefited from all of the team members being able to contribute to patient care. The team member reported that patient assessments were done on an individual basis, but the assessment information was then brought back to all of the team members for further review and discussion. The assessment information from all of the team members was used to determine the level of care and intervention required for the patient. Team E members indicated that a single-discipline assessment did not provide enough information for effective patient care. The information needed to deliver the best possible care for complex patients required many opportunities to interact with the patient – "that kind of information can't just come from one instance, it's a package deal."

Aside from the stories or examples, there were several keywords and phrases that exemplified the team members' commitment to keeping the focus on patients and their families and involving them in the intervention process. The italicized keywords and phrases in the following quotations indicate which words were used to identify the characteristic:

> **Team B:** I think, coming out of that, which we haven't mentioned, which is probably one of our core things, is that we *look at the patient and family as being central to our reason to be*, really. And that's how we approach, that all of us work together to the best of our abilities, be it our professional abilities, our personal abilities, etc. That's definitely the ideal.

> **Team A:** I think that *understanding of what the patient wants* to do also helps with the perception that we're all working together as a team, with the patient included.

> **Team D:** The *participant* [referring to patient] *is the person that drives* it. That's the only way I can describe it; participant, that has the choices and makes the choices.

From these quotations, several keywords and phrases were identified in the transcripts that related to the topic of keeping patient care as the central focus. Some examples of these keywords and phrases included: "patient is central", "what patient wants", "patient drives it", "whatever is necessary for the patient", "really depends on patient's needs", "teamwork means we are all on the same page, so the patient benefits", "as a team gets better picture of patient", "blends it all into a spectrum of how patient actually functions" and "patient/families should be first". The quotations and the list of various characteristics identified above are not a complete listing of all the identified characteristics but are provided as a representative sample of the types of characteristics that were identified.

Based on the characteristics identified, there seemed to be general agreement that the patient and his family needed to be central. The primary purpose of the team was keeping the patient and family central and led to the development of common goals and intervention approaches among the team members. The characteristics that were identified for this theme all seemed to share the common idea that the patient needed to be central and the activities associated with intervening with the patient needed to have a common focus and approach. These characteristics were brought together to form the component, "patient needing to be central". Upon further reflection, it seemed that the identified characteristics that had been brought together to form the component were actually addressing one common theme. Therefore, it did not seem necessary to form a separate component and the characteristics were brought together to develop the theme, "centrality of patient and family".

Development of theme from characteristics

"Centrality of patient and family" was derived from characteristics that shared similar properties. As the team members responded to the interview questions and told their stories about providing interprofessional health care services, it became increasingly obvious that the focus of the team members was patients and their families. The participating team members described numerous activities and behaviours which originated from focusing on complex patient problems. The team members used words, such as "patient is the bottom line", "centred on the patient", "commitment to patients and families", "common agenda", "whatever is necessary for the patient", "comprehensive, holistic care" and "patient seen in all dimensions". These keywords and phrases referred to the view that team members held about patient care, how they developed common goals to address the patient's needs, and how they integrated their treatment approaches to ensure quality patient care. By focusing on the patient and family, the needed expertise, necessary goals and appropriate intervention strategies were generated. Thus, the patient's complex problems served to drive the strategies and working procedures of practicing interprofessional health care teams.

The participating team members emphasized that the patient and his family were the priority and that team members approached their work based on this commitment to patient and family care. This common belief or viewpoint seemed to bring a humanistic perspective to patient care. While the team members acknowledged that they had to address the patient's needs, they expressed the need to see pediatric patients as children first and adult patients as people first.

The participating team members indicated that they stayed focused on the patient and that the patient and family were the central reason for their existence as a team. Some of the team members described the need to put the patient's agenda first, thus enhancing patient care:

> **Team B:** For example, "This kind of wheelchair is good for you," even though the patient would say, "This is what I'm comfortable with," or whatever. "This is because da-ta-da-ta-da". It seems like such a minor thing, but "letting go of what you think" or...
>
> **Team C:** ...to feel what they're going through. If you have a kid that's having seizures 20 hours a day, you're not going to give them 10 therapy ideas to do at home. That balance of knowing what to expect from a family, or the demands you want to put on them. Some therapists, I find in this place, just have no idea — no compassion — of what some of these people are going through. But then after that, you want to work with people that really care. It's putting the family's agenda first, and yours second, I think.
>
> **Team C:** The other thing-sometimes you give over your agenda entirely. I remember a family who came in one time, and the mom was exhausted. Whoever the team was at that point said, "She can't do this today". When we talked to her about it, she said she'd been up all night for a couple of nights and blah blah blah, so our intervention that day was — she'd never been away from this kid — was "You take 2 hours and go, and leave him here". Maybe that's not official policy or how you intended to practice that day, but that was the most important intervention for that family that day, and that's family-centred practice. So once in a while, we threw our entire agenda out. The parent was absent. Our job that day was giving her 2 hours of respite. You wouldn't do that all the time. You'd address it in a different way, but the flexibility of the team to be able to do that is important, I think.

The participating team members indicated patients were free to make decisions and disagree with the team members. There was acknowledgement that patients needed to be provided with alternatives and options. For example, Team A members described a patient who wanted to return to working on roofs and the team members felt that this type of work would be too difficult for the patient. Although the team members did not agree with this goal, they did not prevent the patient from exploring this option with the appropriate return to work agency.

> **Team A member (1):** I think about even D, who I think we all were pretty hesitant about his type of work and work return, but that's what he wanted. There wasn't much flexibility. So we ended up sending him to HIRE, and that's what they looked at. They looked at going back, even though the rest of us gave him enough information that we would hope he would see the light, no that this isn't reasonable get up on a roof and work with shingles and hot tar. But still, that's what he wanted, his goal. I don't think that we altered our approach or anything with him that much, but did respect that and sent him to an agency that would help him return to work.
> **Team A member (2):** But all the while, it seems I'm compromising what it is that we're trying to accomplish with him through the usual prevention of injury, the maintenance of current ability, and the use of devices that would facilitate both.
> **Team A member (3):** I think that understanding of what the patient wants to do also helps with the perception that we're all working together as a team, with the patient included. I know in his case, I think he came around psychologically when he knew that we weren't trying to necessarily just throw a giant roadblock in front of what he wanted to try. Not saying that we were necessarily pushing him into that, but —

The focus of Team A members was on the patient and the patient's goal to return to work. The team members recognized that keeping the focus on the patient and his goals ultimately led to a strengthened relationship between the team members and the patient and enhanced care.

While team members expressed the desire to allow patients and their families to have options and alternatives to care, another aspect of "centrality of patient and family" was ensuring that patients and families were provided with realistic information about their health status and potential functioning. Team C members provided a patient story that illustrated how team members needed to stay focused on the patient and family and provide realistic information. Team C members described a situation where there was a multiply-handicapped child, a caring mother, and a domineering grandmother who was critical of the team members and felt that they just needed to work harder and give the child more treatment. The grandmother believed that the child was intelligent and would be just fine with more treatment. There was also an early intervention worker who felt strongly that this family needed to preserve their hope. One Team C member explained how they needed to ensure that they did not dash the family's hopes but at the same time ensured that realistic information and expectations about this child's development were being provided. Although the team members did not believe that providing intensive treatment was the answer, they established a set period of intensive treatment and completed pre-treatment and post-treatment videos. These videos were used to demonstrate to the mother and grandmother the child's functional abilities before and after treatment. The team members indicated that there was no remarkable change in the child's abilities following the intensive period of treatment. A comprehensive report was written documenting the events and the child's developmental level in all areas. The team members certainly compromised with the family and focused on the family's desire to have intensive treatment. They responded sensitively to the patient and family and did not dismiss the family's needs. During the telling of this story, the team members expressed how they negotiated with the family, talked a lot with each other, and worked on finding the right language to explain issues to the family.

As the participating team members described the need to focus on the patient and his family, it became apparent that they strived to develop common patient goals and integrated their treatment approaches to provide comprehensive care. In order to develop common patient goals, they described the need to bring their assessment information about the patient and his family to the other team members for their input and review. The health care team members viewed the ability of each team member to assess and interact with the patient as a real benefit:

> **Team D:** I think that the participant's life and health care and quality of life is enriched. Each member around this table sees the person, and the participant

> interacts with each member somewhat or slightly differently, so that we'll all get a little facet of their story. It's only when all of those facets are put together on this table that that person is seen in all of their dimensions, and that is very enriching.
>
> **Team E:** I think when we are doing an assessment, even though our assessments are done individually, we get a much better picture of the whole patient. We had somebody a while back, and the opinions of the whole group were used with [Social Work] in terms of finding the right kind of housing, because we could talk about their attention span, and Physio, or whether they remembered their breaks, or carryover from days to evenings with Nursing, whether they showed up when they were supposed to in Rec. All those pieces helped to know what level of care would be required. That kind of information can't just come from one instance, it's a package deal.

The team members recognized that each member potentially had a different relationship with the patient and were looking for different pieces of information about the patient and his family. Each team member would see the patient from different angles and by bringing all of this information together a better picture of the patient's and family's problems would emerge. For example, Team E members described how they would work together to assess a patient's readiness for a prosthetic device:

> **Team E member (1):** Or should they be fitted with a prosthesis, joint team decision.
> **Team E member (2):** They may be okay from a wound perspective. So nursing has looked at the wound and said it felt fine. Physio says, "But they're not strong enough." Then I [Physician] can pipe up and say, "They haven't got the cardiovascular reserve. They're not ready for this."

By understanding the patient's needs from the team members' various perspectives, goals could be developed that would best meet those needs. The development of common patient goals ensured that the patient's needs were being addressed from an integrated perspective. Common patient goals ensured that the patient was being seen as an individual, rather than simply treating the patient's individual body parts. For example, Team E members described how they developed a goal about golfing with a patient who had a prosthetic leg. Golfing would be viewed as a leisure activity and the recreational therapist in most cases would have been the primary person to work with the patient to achieve this goal. Since the patient's prosthetic leg affected his balance, it was important for the physical therapist to know about this goal and work with both the recreational therapist and the patient to achieve the desired outcome.

> **Team E:** And [RT] and [PT] have done some things. J had somebody last year who wanted to golf. It was when you were off the program for a little bit A. So together, you [PT] and the [RT] worked with the client so that the [RT] could understand better what balance was possible, and what wasn't, and then they were able to follow through on the golfing stuff.

It can be seen that the development of patient goals will result in the integration of treatment approaches if the patient is kept central. In the example above, the recreational therapist integrated the knowledge from the physical therapist in order to assist the patient in achieving his goal of being able to golf. The participating team members described how they would observe each other intervening with a patient to determine how they might be able to improve their own interaction with the patient. Team members would use their own discipline-specific information and incorporate information from other health care providers in order to address the identified problems.

In addition to team members being able to take into account other members' assessments of the patient and work with various members to provide comprehensive care, it was indicated that patients seemed to benefit from having different people involved in their care. One of these benefits was that patients would hear the same message about their care and progress but it would be stated in slightly different ways. It was reported that this seemed to enhance the patient's understanding of his treatment.

> **Team A:** So if they've been started on remittent drugs and they're still flared, that's different than if they've been on a remittent drug for three months and

> they're still flared. So I think for the patient to really understand it, it helps them to hear it from different people and in different ways.

The team members recognized that patients related differently to individual team members. The different relationships between patient and team members were attributed to the amount of time that a team member spent with a particular patient, and the recognition that team members had different personalities that may or may not fit with a patient. Team C members reported that often the families would avoid speaking directly to the more appropriate team member about a specific problem, but they would instead approach another team member to discuss the issue. For example, a family member concerned about a behavioural issue might approach the program aide with their concern rather than the psychologist. The question therefore needs to be asked, "If another team member was not there to field the question and support the family member to acquire the information from the appropriate source, would the question ever be raised and would that compromise the patient's care?"

The "centrality of patient and family" theme highlighted the need to have the common belief or viewpoint among team members that the reason for the team to exist was based on the needs of the patient and his family. Goals and treatment approaches were developed through individual team members' assessments and taking into account the contributions from all of the team members. This continual interaction among the team members, patient and family ensured comprehensive care. As one team member stated, "there's a lot more communication and it's my line doesn't end here, not necessarily, so depending upon what your patient is and what we're doing, it can change." The team members realized that it was necessary to look beyond one's own individual discipline and ensure that the patient and family were remaining as the central focus.

Corroboration of theme from literature

The development of this theme, "centrality of patient and family", took into account previous literature, including research findings. The premise of this theme was that the team members focused on the patient and family in order to be a successful health care team. This focus or primary reason for existence was similar to other articles and research findings indicating that teams required a common purpose and performance goals (Drinka & Clark, 2000; Manion, Lorimer & Leander, 1996). Katzenbach and Smith (1993) reported that team members needed to be committed to a common purpose and have a set of related performance goals in order to attain the team's true potential. The team member's performance goals must match the overall purpose, otherwise members become confused, pull apart and revert to mediocre performance behaviours (Katzenbach & Smith, 1993). It may not be novel to recognize that teams as a whole require a purpose and goals, however the way participating team members described their commitment to patient care and how that purpose was translated into their work brought an innovative and creative approach to determining the critical components of team functioning. The team members emphasized how the patient and family drive the treatment process. Team members need to have a common belief or viewpoint that a patient and family are the central reason for the team's existence and be willing to abandon their discipline-specific agenda in favour of the patient's or team's agenda.

While a patient-focused treatment model has been recommended, the relationship or the role of the patient to the team has not been well defined. Drinka and Clark (2000) proposed that patients may not be key team members, but their needs are definitely at the core of the team's decisions and work. Patients' needs are central to the team's focus, and it is important for them or a family member to be an active participant on the team. The ability of the health care team members to develop relationships with patients and families and subsequently provide exemplary intervention services can only occur if the team members and patients are actively involved in determining the best course of action.

Demonstration of centrality of patient and family theme

Analyzing the data and determining what the team members were actually trying to say about their interprofessional team experience led to a different view regarding how team members kept the patient central than previously was identified in the literature. Most of the team members described a process they utilized to ensure that the patient's problems were being addressed. For example, Team E members individually assessed the patient, but each member brought back their pieces of information to the entire team in order to gain a blended perspective of the patient's needs. Team E members also expressed how they would find informal opportunities to observe the patient working with different discipline members to see whether they could help improve the patient's functioning.

Overall, the health care team members had a common viewpoint about their purpose. They participated in formal and informal meetings to share their assessment and ongoing intervention information with each other. This shared information was used to develop common patient goals. All the team members would be aware of the patient's goals and reinforced the particular strategies in different settings. For example, a mobility goal may have been developed for a patient, and therefore, all of the team members were accountable for the implementation of the strategies to the meet that goal:

> **Team D:** An example of that would be somebody who had to get out of their wheelchair in the morning, and we want them to be more actively involved in recreation, so I'm kind of thinking a bit of Physio and Rec at the moment. But we kind of help each other out that way. So by knowing the information that so-and-so's supposed to be out of their chair, we don't just leave them there and wait for A to go and do it. We'll work together and also help to get them out, and it enhances their quality of life.

These participating teams had developed an understanding of each others' perspectives, developed common goals, and had learned how to integrate their treatment approaches to provide comprehensive care.

Cognitive aspects

The theme, "cognitive aspects", highlighted how members of an interprofessional health care team organized the knowledge of the team members and transferred the necessary skills and knowledge to one another in order to provide patient care. This theme highlighted how team members developed the necessary decision-making and problem-solving skills in order to perform on an interprofessional health care team and provide patient care.

Identification of characteristics from data

The following stories and quotations are a representative sample of the characteristics the investigator identified during data analysis. The characteristics that defined this theme were from four topic areas: (1) fuzzy boundaries, (2) expansion of discipline, (3) united front/same page and (4) taking it to the team. "Fuzzy boundaries" and "expansion of discipline" were brought together to form the component, "blending of expertise". "United front/same page" and "taking it to the team" were brought together to form the component, "problem solving". The formation of these two components will be discussed later under the section "formation of components from characteristics".

Fuzzy boundaries. As the team members discussed the necessary knowledge, skills and attitudes required for successful interprofessional health care teams, the idea of fuzzy boundaries was developed. The following quotation contained the idiomatic phrase "fuzziness in the boundaries" and illustrated this idea:

> **Team E:** I think the willingness to have some *fuzziness in the boundaries* of our jobs, so that although we each have — we represent a discipline, there's still — our boundaries aren't so distinct that we can't — J can't comment on somebody's social history and W isn't allowed to comment on something that's happening in somebody's interest in recreation. So there's some ability to allow that fuzziness and for all of us to accept that.

Below are several other quotations from participating team members that reflected a sense of integrating discipline-specific knowledge, and the behaviours team members engaged in to act beyond their own discipline. The italicized keywords and phrases in the following quotations indicate which words were used to identify the characteristic:

> **Team B:** Along the lines of professionalism is also you have to be comfortable with *blurring of roles*, and not, like M has mentioned about territorial. If we go from what P said in terms of the patient and family is central to our whole reason for being, then whoever is best to help them. You have to accept blurring of roles.

> **Team E:** Because at different times in our interactions with the patients, they may ask us about other disciplines, so we have to be able to *"liaise"* with the other people and *know what their roles are* so that we can discuss them with the patient. I think that happens quite often.

> **Team A:** I think it's something that existed in the team, 'cause that's something that I noticed when I came on the team — that there is a trust. As K says, the roles are fairly well established. You have people who have been working for quite a while, so they're fairly secure in their own professional roles. I definitely think that the atmosphere — *allowing atmosphere* — was here when I started. As K said, it's easy to communicate on this team. You can raise a question and it doesn't necessarily — it could be just your thoughts on a subject — you don't have to come with a full solution. The team will help you put that solution together, I think.

> **Team A:** I think we're all fairly *knowledgeable about what each of us are doing*. We know a patient comes through the program — I mean, I know what

> K's doing, but I wouldn't know what P's doing to my Y patient. I probably wouldn't know their action plan, but I kind of know K's action plan because we've done this together, and it's this identified diagnostic group and there are themes that are repeated. So I think we all have a *good appreciation of what everybody's dealing with for each patient to reinforce.*

The stories shared and responses given to the various questions by the team members revealed keywords and phrases, such as "accepts fuzziness", "room for overlap" and "areas of practice being interrelated". These characteristics seemed to refer to the behaviours necessary for engaging in clinical activities outside one's own discipline. The quotations and the list of various characteristics identified above are not a complete listing of all the identified characteristics but are provided as a representative sample of the types of characteristics that were identified.

Expansion of discipline. Another topic area that came from the data was "expansion of discipline". This area had characteristics that related to one's knowledge base growing and developing, and integrating the various perspectives from the different disciplines to provide patient care. Below are several quotations from participating team members that reflect a sense of thinking beyond one's own discipline. The italicized keywords and phrases in the following quotations indicate which words were used to identify the characteristic:

> **Team B:** ...need to get a holistic view to address all the different domains, the physical, the spiritual, the psychological, etc., where we really come together to give input. I think we're *comfortable to challenge one another*, we're comfortable to say we disagree, and like B, we come up with a good multi-dimensional approach.
>
> **Team C:** Part of that, I think — because we do spend a lot of time sitting and talking together, so we do *know — more than the average therapist* would about each other's work and expertise ...
>
> **Team C:** Oh, absolutely! Once you've *gained more information from the other team members' perspective*, them saying to you, "This mom's, I think, a little too fragile," or "She's got this on her plate; she's dealing with too much".

> **Team D:** There is such a *maturity of experience*. If you packed all the experience-years that is in this room into a heap, where else are you going to be able to *gain access to such a fabulous body of knowledge*?

> **Team E:** Someone out of your discipline can bring something very interesting to — a *different perspective*, or something that you may not have thought of doing, but it's out of their field. "What about doing such-and-such a thing?" and you think, "Yeah". So *you're out of that Physio way of thinking maybe.*

> **Team E:** ... the person coming in, just to point out at least some of the things I may not be able to see, it's almost like a *third eye* for me, where you're coming and helping me out, not to come and criticize me. I have to trust those people that way.

The team members' stories and responses to the various questions revealed keywords and phrases, such as "meeting of minds", "wonderful array of resources", "verifies position", "building a common knowledge base", "able to bring in all of that specific knowledge base, which any one of us could not have", "better therapist", "team gives confidence", "learned a lot from other disciplines" and "know a lot more". These characteristics seemed to refer to the necessary ways of thinking beyond one's own discipline. The quotations and the list of various characteristics identified above are not a complete listing of all the identified characteristics but are provided as a representative sample of the types of characteristics that were identified.

United front/same page. A third topic area that came from the data was "united front/same page". This area had characteristics relating to the team members being consistent with patients, cohesive, and united in decision-making. Below are several other quotations from participating team members that reflected these characteristics. The keywords and phrases are italicized in the following quotations to indicated which words were used to identify the characteristic:

> **Team B:** I felt like you were gently making sure that I was on the *same page* where you were at, and making sure that we don't label her as the enemy, and try to understand where she's coming from...

> **Team D:** We had to *stay consistent*. It was important for us, so that when he went to us for different answers, we all were giving *the same answer*, so he wasn't able to play the game as well.

> **Team E:** ...just 'cause you're all on the *same page*. They're [patients] all getting the *same story*, they [patients] know where they're [patients] going.

In addition to these quotations, several stories were shared about team members needing to be consistent in their approach. As described in the section, "centrality of patient", Team C members shared a story about how they presented consistent messages to a family regarding the developmental function of their child:

> It meant a lot of talking, it meant — amongst us, it meant a lot of consciously deciding to present a united front to this mother so we're all giving a common message.

The team members' stories and responses to the various questions revealed keywords and phrases, such as "consistent approach", "giving same message", "cohesive", "unified voice" and "united in decision".

For this topic area, it was interesting to note the various analogies the team members used to describe the key characteristics. One of the analogies used was being "on the same page". This analogy provided the image of every team member reading information from the same page and understanding how the team as a whole wanted to proceed with providing patient care. The team members believed that the notion of being on the same page or providing the same message was beneficial for patient care. This was supported by the following quotation:

> **Team E:** I think definitely for the patient, from a patient perspective, teamwork is definitely an asset over individuality, just 'cause you're all on the same page. They're all getting the same story, they know where they're going.

The quotations and the list of various characteristics identified above are not a complete listing of all the identified characteristics but are provided as a representative sample of the types of characteristics that were identified.

Taking it to the team. Another topic area that came from the data was "taking it to the team". This area had characteristics related to the team members being able to bring problems, issues and questions to the other team members and finding solutions or answers through discussions with each other. Below are several quotations and stories from participating team members that referred to team members being able to bring issues to the team, discover solutions and find support for the recommendations. The italicized keywords and phrases in the following quotations indicate which words were used to identify the characteristic:

> **Team D member (1):** I know that if there is something that I feel I should be answering, like, should somebody be up walking by themselves, or should somebody be doing something, I feel it's my decision to make. I'm thinking, "Oh, I don't know," and I'm sitting on the other side of the fence. Then I give myself a kick and I say, "*Bring it to the team!*" I bring it to the team, and the *team sorts it out*. I think that's really, really helpful to do that.
> **Team D member (2):** The *responsibility isn't only on that one person*. We've all talked about it, we've *shared everything*, and if we're willing to take that risk, and the family's willing to take that risk, then we just go with it.
>
> **Team E:** Team members would be talking at coffee and having their ideas brought forward in not a really positive fashion, whereas not all team members were aware there was a little bit of a team breakdown because the morale of staff gets lower and lower. When it was *brought to the team and brought in the open*, it was discussed and we were *able to support each other during that time*. That, I think, is how *we kind of worked together to bring us out of a bad situation that could have gotten worse.*

Team A members shared a story about a difficult patient situation that required all of the members to provide their input and knowledge to determine the best way to communicate information and decisions to the patient. With this particular patient, there had been a pre-existing condition that the team as a whole had not been aware of prior to admitting him to the program. As a result of this pre-existing condition, the patient demonstrated some inappropriate behaviours, and the team members developed several strategies to accommodate him.

> **Team A:** We see him practically every day for Recreation at some point, and it's an ongoing issue almost day-to-day-to-day-to-day, because his behaviours can be one way one day, and one day the next, and it can be one way to one person and one way to another person in the same room. That's something I've talked with my staff, is to be very consistent in how they treat this person. Again, the *information has come from the team* to me to work with him.
>
> **Team A:** What everybody was doing was, like, when you guys were taking him out to that lodge out west of the city, and knowing that you guys were going to do that, and being able in my sessions to be able to communicate with him to find out how he's feeling about that, represent it as a positive alternative. And then when you came back and saw that it wasn't a good alternative, to be able to relate to him that that's okay. Again, *hearing that information from the team and being able to communicate it back and forth*, and then be able to talk with him, so he knows that we all talk and we're all here trying to help him, that it's seen as more positive, and we're hoping that he'll be more positive about it.

Team C members expressed how important it was to be able to bring issues to the team and be able to discuss these issues with everyone on the team. The team meetings seemed to be viewed as a safe environment to discuss various situations and gain support from the other team members.

> **Team C:** But we do that, and you get to that, and that is hard. You have to do your job, right? You have to do it and it's hard. But before, I think we spend a lot of time in here — I think somebody walking in would almost think it sounded like a coffee party. They might think that, but at the same time, you're still working it all out — "How do you feel about it, this whole situation, and how tough it is" — it might remind you of how lucky you are and blah blah blah — and then you *get all that worked out in here*, and then you can go do your tough job.

The stories shared and responses given to the various questions by the team members revealed keywords and phrases, such as "team helps to find solutions", "team provides direction", "support", "gives team members confidence" and "draw strength". The quotations and the list of various characteristics identified above are not a complete listing of all the identified characteristics but are provided as a representative sample of the types of characteristics that were identified.

Formation of component from characteristics

The various characteristics were then examined and compared to each other, and those relating to the same content and having similar properties subsequently were brought together to form components. "Fuzzy boundaries" and "expansion of discipline" were blended together to form the component "blending of expertise". By blending these characteristics together, a clearer delineation of the behaviours, knowledge and thinking that was necessary for team functioning became apparent. The characteristics identified in the topic area "fuzzy boundaries" referred to the actual behaviours team members engaged in when providing patient care. The characteristics identified in the topic area "expansion of discipline" pertained to how team members were actually thinking about patient care. "United front/same page" and "taking it to the team" were blended together to form "problem solving". The characteristics within these two topic areas referred to the viewpoint of team members and the activities, strategies or behaviours employed to find resolutions to various problems.

Blending of expertise. This component brought together characteristics that related to the notion of being able to think beyond one's own discipline and the actual behaviours that allowed team members to integrate their knowledge and expertise in order to provide comprehensive patient care. Team members spoke of how they needed to integrate their resources and adapt quickly to changing patient needs. Some treatment examples provided by team members exemplified how integrating discipline-specific information and learning from each other were critical for interprofessional team functioning and patient care. Team E members discussed the pairing of two health care disciplines to assist a patient in developing his balance during a golf game. Team C members discussed the integration of treatment approaches from occupational therapy, physical therapy and speech-language pathology into a snack activity. In both of these examples, there was the indication that the health care team members retained their discipline-specific knowledge, but the knowledge and skills that were required to best meet the patient's needs were integrated. Team C members described how each team member determined a certain goal for the patient but the implementation of the goal could occur in any setting. The physical therapist indicated that she could be assessing balance and muscle strength, but this could occur at the snack table while the psychologist was addressing socialization goals.

> **Team E:** And rec and physio have done some things. J had somebody last year who wanted to golf. It was when you were off the program for a little bit A. So together, you and the rec therapist worked with the client so that the rec therapist could understand better what balance was possible, and what wasn't, and then they were able to follow through on the golfing stuff.
>
> **Team C member (1):** But we all have those things like that, because I think I perseverate on socialization and getting the kids together in groups and doing — and H. you always take their clothes off [several voices, laughter]
> We just know if they are going to see physio off come the pants and socks. [laughter]
> **Team C member (2):** I can have the pants off at the juice table. [laughter]
> **Team C member (3):** Some of our interventions look very weird.

As the team members described how their team functioned, it was apparent that team members coming together brought out different approaches or ways of thinking about how to address the patient's complex health problems. The team members shared their belief that when they focused on the patient's needs, they learned from each other, advanced their own knowledge and built a common knowledge base. The following quotations exemplified the learning that occurred among the team members and how the team members were challenged:

> **Team B:** We really need to get a holistic view to address all the different domains, the physical, the spiritual, the psychological, etc., where we really come together to give input. I think we're *comfortable to challenge one*

> *another*, we're comfortable to say we disagree, and like B, we come up with a good multi-dimensional approach.
>
> **Team E**: Other team members *challenge you, challenge you to grow and think* and push you along, too, I think, especially at those Rounds. People will say different things, and it makes you think, "Yeah".
>
> **Team C:** I was just going to say, I feel like you guys understand that stuff, and I think I've learned to understand those things, too, and that is the nice part about the job. You come away *knowing a lot more* than you did when you started, and frankly, that just *keeps you interested.*

A Team E member provided an additional perspective of how other team members facilitated or enhanced an individual member's practice. This team member referred to the other members as the "third eye":

> For me, people come to me and say, "There are things that are not happening". Let's say I feel it's my job to complete, let's say. Then I believe that I am doing fine. If something's happening that's not reflecting what's being done, it's because of their reasons that I'm not getting certain things done, it's not because I am not being a competent person. Instead, if it is some dynamic happening, and the person coming in, just to point out at least some of the things I may not be able to see, it's almost like a *third eye* for me, where you're coming and helping me out, not to come and criticize me. I have to trust those people that way.

The reference to the other team members as the "third eye" added an interesting dimension to thinking beyond one's own discipline. Thinking beyond one's own discipline required the ability to learn from one another, increase one's own knowledge, develop common knowledge bases and be responsible for one another. To think beyond one's own discipline required the ability to grow and evolve. The "transition" component from "dynamic aspects" was evident throughout this component as team members described discovering innovative solutions, integrating knowledge, learning from each other, and building a common knowledge base.

In addition to the characteristics that related to thinking beyond one's own discipline, there were characteristics that related to the necessary behaviours for acting beyond one's own discipline. Some of these behaviours included understanding one's own role and limitations, knowing the role of the other disciplines, keeping the focus on the patient's needs and problems, listening to the patient, and allowing other team members to contribute and participate in areas outside their traditional domains. A picture or analogy used by a Team E member regarding different disciplines moving a box helped to illustrate what the individual members were doing in order to achieve patient care:

> It's not always immediately obvious when you're only looking at it from one discipline as well. If you look at it from a medical perspective, they fall into this box. Then Physio takes that box and moves it three steps to the right, but they've still got some overlap, and you think, "Oh, okay". Then they've reached this bit, then OT kind of grabs the edge of that. It sort of just makes it — instead of being individual boxes, it takes it and blends it all into a spectrum of what the patient actually functions as.

This quotation highlighted the fact that health care practitioners cannot possess all of the necessary information and skills to provide patients with the best possible care. By having the different disciplines assess and treat the patient, it was likely that the patient's needs would not be overlooked. This investigator believed that the Team E member was attempting to depict how patient care was enhanced when every team member participated and contributed. As one reads this quotation, it is possible to visualize the first team member assessing the patient and then passing the information to the second team member for his/her input, then the first team member integrating that information into his/her intervention plans, and the third team member then assessing and providing input. It seemed there was an ongoing communication and feedback loop that allowed team members to provide input, integrate information and develop interdependency among the team members. The "movement" and integration of the information from one discipline to another discipline was an example of the "dynamic" nature of interprofessional health care teams. In order to successfully perform as a team, team members needed to be able to rally their own resources, cross over into non-traditional areas of practice and integrate information from the other disciplines.

As similar characteristics were brought together, the investigator decided to incorporate the characteristics regarding the necessary behaviours for acting beyond one's own discipline and the characteristics regarding thinking beyond one's own discipline. Both sets of characteristics seemed to contain properties that were relevant to team members "blending their expertise" to function as an interprofessional health care team. The label "blending of expertise" seemed to capture the substance of the interview data regarding team members' ability to integrate their knowledge and skills.

Problem solving. This component brought together characteristics and topic areas relating to team members developing consistent approaches and bringing issues and problems to all of the members for resolution.

The characteristics within the topic area "united front/same page" brought together characteristics in which team members expressed the viewpoint that it was important to have a consistent approach and a cohesive team. In the section regarding the "centrality of patient and family", a story shared by Team C members was described. The reader will recall there was a family with a multiply-handicapped child for whom Team C members developed an intervention plan that illustrated for the family realistic expectations of the child. One of the team members indicated this story was a good example of "how we all worked together, and we all were on the same page and everything in terms of how we presented that and what we did." The reader also will recall from the section "Use of stories" that Team A members shared a story in which they had accepted a patient who presented with the primary condition for referral to the team as well as other multiple problems, including lack of housing and a previous brain injury. The team members had to develop consistent strategies and had to ensure they were giving the same message to this patient:

> I think, too, for all of us, whether it be individually, by phone conversation, or during rounds, we identify what is acceptable behaviour for him in the various disciplines, because there's been other instances where his behaviour's not been acceptable, in X or Y or whatever. So we're making sure that we're all *giving the same message*, that these things are acceptable, and these things are not acceptable.

The teams seemed to stress how important it was for them to work together and be on the same page in terms of how they presented information to the patient and/or family. There were definitely advantages for both patients and team members when everyone approached the situation in a similar manner:

> I think definitely for the patient, from a patient perspective, teamwork is definitely an asset over individuality, just 'cause you're all on the same page. They're all getting the same story, they know where they're going.

The characteristics within the topic area "take it to the team" brought together characteristics such as "sharing information", "conferring with each other" and "providing direction and confidence for each other". As these characteristics were examined, it became apparent that team members relied on the opportunities to confer with each other to develop appropriate strategies or solutions for the various problems encountered.

As the investigator examined and compared the various characteristics from both topic areas, it was apparent that the characteristics could be blended together to form a component titled "problem solving". Formation of the "problem solving" component resulted from bringing together characteristics that highlighted the need for team members to bring issues to the entire team for input and discussion in order to develop a cohesive action plan. One of the team members described this process as "a place to get everything worked out before you have to go out and do the tough job." During the discussion process, team members established consistent approaches and messages that they presented to the patient and family. Team members indicated that knowing what the team had decided enhanced their ability to deal with team and patient situations. Essentially, if everyone was being consistent and giving the same messages, there were no surprises for the patient, and the patient was not able to pit one team member against another.

> **Team D member (1):** Just thinking about the way we handled Mr. H as a team, and everybody making sure that all communication came to the team because of the difficulty in his nature.
> **Team D member (2):** He was definitely someone who would go to different team members to try and get what he wanted to hear, which was to get better. He also went to members of the other participants, and you could hear him quite loudly negating the [Team D] about all these things. So he came up a lot in the morning where we worked through "What's he asking now? Who's going to look after it?" We had to set him up with specific people that he would see. We, the rest of us, were expected to, say, "Go and see — that's your person to see on that issue".

By establishing a particular approach for interaction with the patient and his family, the team members gained a certain level of confidence and support for the course of action. The following quotations illustrated team members' reliance upon knowing how they should respond, which in turn gave them the confidence to interact with the patient:

> **Team D member (1)**: Made it possible to tell his side of the story and gather a liaison to feel the same way. I know, too, in recreational programs, just by knowing what the team had decided about things, it made it easier to defuse the situation or to know how to handle a situation and redirect him or tell him it's not an appropriate time to bring these things up. It doesn't affect everyone here, and we could deal with it later with either H or L.
> **Team D member (2)**: He would have eaten any one of us alive on any given day without the backup.

As stated above, dynamism was interwoven with the component, "problem solving". The team members emphasized the importance of bringing issues to the other team members for input and resolution. One would assume that by participating in team discussions, team members would develop an understanding of the problem, which would impact the solutions. It seemed that one of the strategies for dealing with difficult situations and ensuring that a positive outcome occurred for both the team members and patient was to present a consistent approach and message. The team members described being united in their decisions or presenting a united front or voice. The two components, "blending of expertise" and "problem solving", were then integrated into one theme, "cognitive aspects".

Development of theme from components

Cognition can be defined as "the act or process of knowing in the broadest sense; specifically, an intellectual process by which knowledge is gained from perception and ideas" (Webster's New Collegiate Dictionary, 1980). The title "cognitive aspects" was selected, as it seemed to be a higher level term or an overarching term that allowed the investigator to capture the knowledge, skills and attitudes team members described as being necessary for blending their expertise and developing cohesive problem-solving strategies. As the team members responded to the interview questions about providing interprofessional health care services, it became apparent that they were organizing their respective knowledge bases and integrating the necessary skills and knowledge from each other in order to provide patient care. It appeared that each health care team member retained his/her discipline-specific knowledge base, but an interdependence developed among the team members that encouraged organizing interprofessional treatment plans, identifying and clarifying conflicts in patient care, evaluating approaches to patient care, clarifying roles and expectations of team members, and developing an understanding of the ways in which team members from other disciplines framed and solved problems. Therefore, it seemed that the two components, "blending expertise" and "problem solving", should be integrated in order for this theme to be developed. By bringing together these two components, the investigator gained a better understanding of how team members moved beyond understanding each other's roles and coordinating their different specialty areas into developing an integrated or common knowledge base:

> **Team C:** But that's one thing you're doing in a team — over a number of years, you're building a common knowledge base about some of that stuff.

The health care team members in this study seemed able to recognize and capitalize on areas of skill overlap. The team members repeatedly stated how important it was to be able to integrate knowledge, learn from each other and provide support for each other. Quotations listed on pages 111 to 113 supported the assertion that team members blurred their boundaries, learned from each other and then integrated information in order to provide patient care. Team A members indicated that they worked together or provided consultation alongside each other, which allowed for overlapping of roles:

> **Team A member (1):** It's a good question. I agree with you. K mentioned that roles are well established. The team — with coming in, I could see that people had their areas of expertise, but I also see what you're alluding to, which is we might work closely together, Recreation with occupational therapists in certain goals, or with physical therapists on certain goals, or we might be working on the psychological aspect, or something to do with their housing or something else, depending upon — but it may not be our main focus, but we may share the achieving of that goal for the patient. I agree with what F said before — it's patient-oriented goals. It's not like you'll only do Physio stuff, you only do OT stuff, you only do Rec stuff. You know what I'm saying?
> **Team A member (2):** I think you can go further than that. There's some sort of consultation that goes on alongside that. If you've got — L has got a patient

> that has particular problems with the hand that she's not sure what to do with, or thinks that there may be some physio intervention that might help, well, we communicate that. So yes, there is clearly established guides or roles, but I think there is room for overlap, and that we're not afraid to overlap.

Team B members indicated that informal grief counselling was an area where they shared responsibilities. While the formal grief counselling would be delegated to social work or pastoral care, it was still the responsibility of all of the team members to participate in these activities to provide comprehensive patient care:

> **Team B Member (1):** I don't know a lot about other teams because I haven't worked that intensely with other teams in other areas, but I always feel here our *boundaries blur between the disciplines*, because although each area has their own skill set, we really do cross boundaries and have — depending in some ways on your own personal skills as well, like, say, with regards to your comfort with spirituality issues, or [pause] I don't know — just in the holistic approach, with regards to, say, dealing with suffering. It's a complex, dynamic, moving kind of symptom, and it takes all of us. But we might cross — I might cross over into B's area of working with grief a bit, or she might cross over into something with regards to nursing. So I think we *blur our boundaries.*
> **Team B Member (2):** I think the *biggest area where we cross over is in the area of dealing with grief or dealing with suffering or informal counselling* — being there for people. In a sense, I don't ever write the assessment that B's social work assessment that B. writes. She doesn't ever get somebody up to walk. But the human area, which is where you're at — your feelings, heart, that comes out at any time with any person. So that's common to all, in a sense.

This quotation from a Team C member suggested that it was imperative that team members learn from each other, and that this increased staff satisfaction:

> **Team C:** I was just going to say, I feel like you guys understand that stuff, and I think I've *learned to understand those things, too,* and that is the nice part about the job. You come away *knowing a lot more than you did when you started,* and frankly, that just keeps you interested.

Successful interprofessional health care team functioning seemed to require team members to be secure in their own professional role, become familiar with each other's roles, develop an understanding and appreciation for what each team member could contribute, and focus on the patient's needs in order to allow overlap and blurring of traditional professional boundaries. The more familiar team members were with one another and the more experience they had working on a team, the greater the apparent positive impact on the collective team's performance. The team members supported the notion of developing their own knowledge base, integrating their practice approaches, discovering innovative solutions for complex patient problems and confirming their decisions with each other. It seemed that these activities led to the blending of expertise and integration of knowledge, and this was more than simply understanding each other's roles and coordinating efforts. Team members seemed to be actually drawing on information from one another, blending their expertise and further advancing their own knowledge and the team's collective knowledge. The quotations from Team E and C members exemplified what the team members were describing during the interviews regarding the development and integration of knowledge:

> **Team E:** One thing I've found, personally, is that being a member of a team — and working in a X facility, you're definitely a member of a team — I learned a lot about the way that things work. I know when I went to write national exams, I took in a lot of things that other people had said or that I learned a lot from other disciplines. If you're not involved in a team, you don't draw on that stuff. Even though it's not something concrete, you certainly get a real appreciation for what other people are doing. I noticed that personally. I don't know if anybody else ...
>
> **Team C member (1):** That's where your expertise was really important for us. Then somehow, to combine the decision and the content and be able to share that.
> **Team C member (2):** You guys really respected that. I remember that. I was very opinionated about that.
> **Team C member (3):** We didn't question it for a second. We just —
> **Team C member (2):** You asked me about it, though. [several voices]
> **Team C member (4):** We asked appropriate questions, but we weren't —
> **Team C member (5):** for knowledge. [several voices]
> **Team C member (2):** I never felt defensive. I never felt like you guys were questioning.
> **Team C member (6):** But that's one thing you're doing in a team — over a number of years, you're building a common knowledge base about some of that stuff.

> **Team C:** I think the other thing with somebody like him, who — each area's so interrelated that the positioning is crucial for the fine motor function or for the feeding or whatever — the areas are so interrelated that you really have to consider the other person's ideals, if you will.

An understanding of the ways in which team members from other disciplines framed and solved problems was a very important component in developing the theme "cognitive aspects". Analysis of the original transcripts revealed that team members realized it was important for them to work together and develop consistent approaches for dealing with complex patient problems. The team members described the need to "take it to the team" in order to establish possible solutions to the various identified issues and problems. As described under the component "problem solving", it was found that team members emphasized the need to be cohesive, present consistent messages and take issues to the team for input and resolution. The characteristics that were used to form the component, "problem solving", were integral to the development of this theme.

Through combining the two components, "blending of expertise" and "problem solving", the theme "cognitive aspects" was developed. The combination of these two components seemed to bring meaning to the recurrent experiences described by the team members as important for interprofessional team functioning. It seemed reasonable to believe that when a problem was identified or a difficult situation arose, bringing it to the team resulted in team members integrating their knowledge and attempting to find creative and innovative solutions. Therefore, the characteristics that were extracted from the data to reflect the components "blending of expertise" and "problem solving" seemed to naturally fit together and provide insight into the processes that were necessary for interprofessional team functioning.

Corroboration of theme from literature

The development of the theme, "cognitive aspects", took previous literature into account, including research findings. It had been indicated that coordinating each team member's skills and expertise to better meet the needs of the patient and his family was beneficial. Strategies have been suggested to promote coordinated efforts, such as developing a shared purpose, creating an open and safe environment, encouraging diverse viewpoints, learning negotiation skills, and insisting on fairness and equity (Clemmer, Spuhler, Berwick & Nolan, 1998). Based on the data collected from the teams participating in the current study, there was evidence of a number of mechanisms that supported the coordination of their efforts, such as ensuring good communication and discussion with each other, providing an allowing atmosphere, demonstrating expertise in a discipline-specific area, and understanding other health care practitioners' roles. However, simple recognition of team coordination and the proposed strategies seemed to fall short of capturing the dynamic nature of the "cognitive aspects" theme described by the participating teams. Team members used words and phrases that seemed to provide evidence that interprofessional health care teams required more than coordinated efforts, but integration of knowledge among the team members was a critical component of team functioning:

> **Team E:** I think even though — I talked about there being fuzziness in our boundaries — there's still areas in which each of us have very distinct knowledge bases. So by working in a team, you're able to bring in all of that specific knowledge base, which any one of us could not have.

Phrases that helped to substantiate this notion included: "wonderful array of resources", "meeting of the minds", "you're out of that physio way of thinking", "patient and family is central to our whole reason for being, then whoever is best to help them; you have to accept blurring of roles", "cross boundaries", "we do know more than the average therapist would about each other's work and expertise" and "in a team over a number of years you're building a common knowledge base". It was the building of a "common knowledge base" that was of great interest because the team members seemed to acknowledge that development of knowledge moved beyond simply sharing information and coordinating those efforts. As the team members described how their teams functioned, it seemed apparent they were developing their own knowledge base, integrating their practice approaches, discovering innovative solutions for complex patient problems and confirming their decisions with each other.

Madhavan and Grover (1998) asserted that the creation and management of efficient and effective interprofessional teams cannot be limited to examining the influence of social processes on coordinating individual team members, but it must also include the cognitive activities that occur during teamwork. Interprofessional health care teamwork appeared to be more than just good organization of the discrete skill set that each individual brings to the table. During the interviews in the current study, the team members discussed the value and benefit of working with other members – "that's one thing I like about the team, 'cause everyone has a different approach to the same problem. They bring their expertise into it and it brings out ideas that I hadn't even considered." A sharing of ideas, an increase in knowledge, and perhaps even the development of new knowledge seemed to occur in these teams:

> **Team C:** I was just going to say, I feel like you guys understand that stuff, and I think I've learned to understand those things, too, and that is the nice part about the job. You come away knowing a lot more than you did when you started, and frankly, that just keeps you interested.

Madhavan and Grover examined how new product development teams engaged in knowledge-producing activities. They indicated that the majority of team studies have focused on the way social team processes influenced the team's key function of coordination, but most have not addressed the emerging perception that cognition is more than the property of the individual. The reader may recall from the literature review that these authors had completed research on distributed cognition framework and suggested that it was important for groups to have a shared conceptualization of the distribution of knowledge within the group. The data obtained for this study led this investigator to believe that interprofessional health care teams shared an understanding of each other's discipline-specific areas of expertise and were able to access and integrate the knowledge to ensure appropriate decisions were being made regarding the patient's care. There was an ability to read the clinical situation, access the necessary information quickly and respond appropriately to the patient.

While the development of the "cognitive aspects" theme had many positive aspects, there were some potential negative aspects that were discussed during the interviews and have been reported in the literature (Heinemann, Farrell & Schmitt, 1994; Madhavan & Grover, 1998). These potential negative aspects will be discussed in the following section.

Potential negative aspects. Although integration and development of new knowledge by team members may be important for better decision-making and improved patient outcomes, some of the teams indicated that a potential negative aspect of health care teams was the compromise factor that occurred.

> **Team C member (1):** Many times, you have to compromise your own clinical style.
> **Team C member (2):** Oh, absolutely! Once you've gained more information from the other team members' perspective, them saying to you, "This mom's, I think, a little too fragile," or "She's got this on her plate; she's dealing with too much". So you're getting the feedback from other people as to how you are going to.
>
> **Team C:** Having to compromise sometimes. I couldn't imagine not working on a team. I love working on a team, but I think sometimes we do things

> differently. Not all the time, but sometimes, there's some things you do a little bit differently on a team than you might do if you were doing it individually or by yourself.
>
> **Team E member (1):** Well, I think even on that patient, we probably all comprised yesterday to reach it.
> **Team E member (2):** That's right! We all did that!
> **Team E member (1):** What we decided on wasn't what I would have chosen for him. It wasn't what you would have chosen...

Generally compromise among the team members was apparent, but one health care provider indicated that at times the compromise was between the team and the patient:

> **Team E:** It's difficult, because we all have an idea of where this person should go, but it's got to be centered on the patient and if they're insistent that this is it, "I'm going home," well — that's not our choice to tell them. We can't say, "You're going somewhere else," even though everybody on the team was thinking that would be a better solution. Unfortunately, that's up to them.

When this aspect of compromising style was pursued during the team interview, the members pointed out that they were not compromising professional integrity for the sake of group harmony:

> **Team C member (1):** No, I don't think none of us would ever do that. I think it's harder. It think it makes it a little bit harder than if you just independently got up and did things the way you do them, because —
> **Team C member (2):** challenge your thinking
> **Team C member (3):** You only worry about your piece. "I want to get across A, B, C, so I just do it".
> **Team C member (1):** Whereas, when you've got your piece, you've got to take everybody's piece into account.

Within the literature, reference has been made to a groupthink phenomenon (Heinemann, Farrell & Schmitt, 1994; Madhavan & Grover, 1998). The groupthink theory suggested that group processes might actually lead to a reduction in team participation and efficiency and lead to mistakes in judgment and decision-making. Nevertheless, the team member in the above quotation adamantly asserted that her particular team would not be susceptible to compromising its discipline-specific knowledge for the sake of team harmony. Madhavan and Grover have suggested that similarity of experience beyond a certain limit begins to have deleterious effects on the team's ability to function. Conditions that may lead to groupthink are high cohesion or feeling honoured to be part of the group, insulation from experts, directive leadership, absence of formal procedures for group decision-making through consensus, homogeneity of members' social backgrounds and ideologies, high stress, and low self-esteem among members. The presence of these conditions may lead to faulty decision-making (Heinemann, Farrell & Schmitt, 1994). Heinemann, Farrell and Schmitt applied the groupthink theory to geriatric health care teams and found that health care teams do not have the power to overcome all of the conditions that predispose them to groupthink, such as being able to have input into selecting new team members or selecting the location of their offices. These authors suggested several guidelines to minimize the groupthink phenomenon. Activities designed to minimize the chance of poor team decision-making included setting aside time for informal social activities, participation in educational programs focusing on team development, open communication, and understanding conditions. For more developed teams they recommended having administrative meetings, avoiding directive leadership, capitalizing on members' diversity, facilitating decision making by consensus, and viewing social, educational, administrative/planning and process activities as essential facets of teamwork.

The teams participating in this study seemed to be unknowingly following some of the proposed guidelines to minimize the groupthink phenomenon and ensure appropriate decision-making. Team E and A members openly discussed a team evolution and change in team processes, such as automatic team referrals and comprise style decision-making, which led to healthier team functioning.

> **Team E:** I think if we go back to what A was saying earlier about the evolution of the team, I think now we're getting something that seems like compromise consensus, whereas, if we go back, it was more like closer to a dictatorship. It was somebody who was in control who said, "This is how it's going to be". So there wasn't a chance — maybe that would have been the outcome anyway, but it was never a chance for the team to, as a group, feel that that was where they would have gone.

From the interviews of these two teams, there was a sense that directive leaderships had existed and that this had limited input from the non-leader team members and restricted team decision-making. The awareness team members demonstrated regarding the importance of maintaining their own clinical style and adjusting how they arrived at decisions likely provided a safeguard and minimized groupthink and faulty decision-making. Leana (1985) found that groups whose members had worked together for longer periods of time had democratic leadership and fewer groupthink tendencies. The teams participating in this study had been together for approximately one to fifteen years, decreasing the likelihood of groupthink tendencies.

A second potential negative aspect to consider was the notion that "being on the same page" may actually just be the development of a platform for achieving acceptance of a decision that has already been made. While the characteristic of being consistent provided support and increased confidence for the team members and ensured that each team member was approaching the patient and family with a consistent message, this level of increased cohesiveness might actually limit team functioning. If the intent of the teams was to just achieve cohesiveness and not to encourage constructive confrontation, this might not spark the necessary creative efforts and innovative problem solving that was required to provide care for complex patient problems. However, Team E members acknowledged the need to consider different perspectives. These team members related a previous team experience in which one team member or one point of view dominated team decisions, and there was no discussion or tolerance for alternative viewpoints. Team E members appeared to have evolved over time and there was a change in leadership. Subsequently team members felt comfortable expressing dissenting opinions and discussing alternative approaches for intervention. A team member stated, "I think also, if we don't have the same views on something, we're able to come to a decision and people feel like it's a win-win situation."

Another potential negative aspect of knowledge development, which is quite unique to the health care field, is the conflict or tension that often existed between discipline-specific aspects and crossing professional boundaries:

> **Team B:** Maybe it's just because I'm really sensitive, but I feel if I'm not doing things which are traditionally totally physio, that there's a critical eye looking at me saying what is he doing that for.

This conflict or tension between staying within discipline-specific boundaries while needing to step outside of them in order to gain knowledge may generate competing commitments for the health care team members. Despite this risk, it seemed that on the whole the team members participating in this study realized that it was important to move and think beyond one's own discipline in order to develop the appropriate treatment approach for patients.

> **Team E:** Someone out of your discipline can bring something very interesting to — a different perspective, or something that you may not have thought of doing, but it's out of their field. "What about doing such-and-such a thing?" and you think, "Yeah". So you're out of that physio way of thinking maybe.

It seemed that these participating teams recognized that there were potential shortcomings associated with being on a team, however the team members seemed to try to decrease the potential of the pitfalls through keeping in touch, allowing team members to be heard and presenting their opinions, and viewing conflict as one strategy for achieving innovative and creative resolutions.

Demonstration of cognitive aspects theme

Analyzing the data and determining what the team members were actually trying to say about their interprofessional team experience resulted in discovering new components and expanding upon components previously indicated in the literature. It was found that functioning health care teams required more than social processes to coordinate the team efforts. Cognitive processes also must be a focus for individual team members and for the team as a whole. Various quotations within the transcripts provided evidence that team members participating in this study were definitely aware that patient care was enhanced when a diverse group of health care providers were brought together and provided with opportunities to converse and share experiences.

It appeared that within a properly functioning health care team there was an ability to learn who had the level of expertise required for the particular problem and how that information or expertise could be distributed among the members to ensure best practice. Team performance seemed to be directly related to the degree to which team members had a shared understanding of the team, task and environment (Kraiger & Wenzel, 1997). There seemed to be a fluid, implicit interaction among the health care team members that was similar to the construct of shared mental models (Cannon-Bowers & Salas, 1997; Kraiger & Wenzel, 1997). A shared mental model was the extension of individual mental models. It was the representation of shared knowledge about the team, its objectives, common information about roles, behaviour patterns and interaction patterns. It was thought that shared mental models improved team performance, as they enabled team members to form accurate explanations and expectations for a task, use common language, coordinate actions, adapt behaviours, and facilitate information processing. Shared mental models seemed to develop over time and decreased the extent to which communication was required among team members (Kraiger & Wenzel, 1997). The participating health care team members recognized and emphasized that it was critical to focus on the patient, blend their expertise, and understand how individuals frame and solve problems. These variables are exemplified in the following quotation:

> **Team E:** I think the more when we meet and interact, if we always keep the patient as the focus, then I think we're able to cross those boundaries more easily, because we see that we're dealing with the patient, we're not trying to tell each other what to do or to imply that the person isn't doing right, or also imply that we're stupid and that's why we need to call.

The following story illustrates how Team E members demonstrated their ability to focus on the patient, change various decisions based on the patient's needs, and blend their expertise in order to find suitable resolutions:

> **Team E member (1):** Well, that patient yesterday. We were in a situation where everybody has their own view on it from everybody's perspective. From Recreation, this guy wants to be incredibly active. From Physio, this guy's basically in a panic, waiting for things to heal. Everybody's got their own little perspective on it. Globally, to try to come up with a plan, once a patient has a very strong idea of what's going to happen, but doesn't really know what's going to happen — that makes it very difficult for a team member to say, "This is what's happening," because you can't just dictate. We can make a definitive answer about "we'll make a temporary leg" or whatever it is, but when it comes to globally, we all have different ideas. If you asked us individually, we may all have a different view on it, but we have to come up with it —
> **Team E member (2):** Well, I think even on that patient, we probably all compromised yesterday to reach it.
> **Team E member (1):** That's right! We all did that!
> **Team E member (2):** What we decided on wasn't what I would have chosen for him. It wasn't what you would have chosen, and what you would —
> **Team E member (3):** Just for example, the patient that you spoke about the other day. There had been another team meeting which was a conference which included the patient and the family, so decisions had been made there. Again, it may not have been decisions that other people may have made or

> agreed upon, but at that particular conference and team meeting, decisions were made, and we made a plan. I think that we felt that we wanted to stick to that plan. Then we had to negotiate that and come and present that to the rest of the team. So often, that's what I see happening, is we need to just talk about — often, issues come out at family conferences that haven't come out before, and it can change the whole progress. But it's a matter of just articulating those and giving the rationale, why we made this decision at this particular point in time. I think we all have the ability to compromise and understand and be flexible.

This story illustrated how the team members needed to move with the patient, exchange information with other team, patient and family members and develop an integrated treatment approach that would ultimately lead to positive patient outcomes. The quotations above demonstrated that health care team members needed to integrate the information from all perspectives and be able to compromise with each other and the patient. Again, it can be seen that dynamism was interwoven among the other themes. Acknowledging that the patient and his family were the central reason for the existence of the team provided the impetus for the other necessary team processes to be evoked.

Social and affective aspects

The theme, "social and affective aspects", brought together characteristics and components that highlighted the interpersonal aspects of an interprofessional health care team.

Identification of characteristics from data

Team C members discussed a story during the second interview session where one health care team member needed to provide information to a family regarding alternative forms of communication or mobility for their child. The team members indicated that the family was not receptive to these alternatives, so the team members needed to be supportive of one another and respect one another's opinions in order to plan the best possible care. Below are a few quotations from the original transcript regarding this situation:

> **Team C member (1):** I know for the communication stuff, just based on what I was seeing and not seeing at that point, the next step, I just sort of made a clinical judgment about what the next step for this kid was, also keeping in mind what his prognosis might be, given his medical diagnosis.
> **Team C member (1):** I feel like I could have been wrong, too. I don't know about at the time, but now I'm thinking, "You just never know what a kid's going to do". You guys supported "Yep, we need to go ahead and do that kind of thing," but —
> **Team C member (1):** So the team really does do a lot of "yup, yup, that's the right thing, based on your judgment". They're supportive.
> **Team C member (2):** I think the fact that we didn't ever really question each other's clinical judgment — that never came up. Like, "Do you think that's a good idea? Maybe you should think about doing this". But if you decided that's the information you wanted to give the parents, everybody always said, "Yeah, that's good, go ahead".
> **Team C member (3):** I don't make clinical decisions, but I sit and listen to them talk to each other, and that's where it starts. You come in and you're sort of debriefing about the afternoon and how it's gone, and which kid each one had contact with. And it's not that they question, but there's always people who are putting their 2 cents worth in because something in Physio might have some tie-in. Well, it does. He needed a left-handed wheelchair. You were talking power mobility, and that all comes in with the ADS stuff for the communications. So it's not like nobody ever gives their opinion on another person's discipline, but it's a conversation that goes on with respect that she ultimately has the best plan, or can see the long-range plan.

The following quotations were found during the analysis process. The italicized keywords and phrases in the following quotations indicate which words were used to identify the characteristics:

> **Team A:** I think this team has a *sense of fun and humour*. We *know a little bit about each others' lives*, and we've gone out for lunch together, or we've thrown a potluck. We've all got busy lives, but I think within the time we have, we do exert a little bit of effort and *socialize* and just *have fun*.
>
> **Team A:** To some degree, *personality plays a role*. There's an amiable — people are pretty amiable and friendly on this team.
>
> **Team B:** I think a real challenge of a team is — I think it's along the same line — what I would say, *appreciating differences in people*...

Team B: I think it's a lot to do with the *commitment on the part of each person* to other people. Again, it's not something you can throw in a recipe and in a box. But if you come to work with a commitment that "I want to get along with these people, I *want to relate to these people*. I'm not going to be satisfied if we're not relating well," then things keep moving, because you keep talking, you *keep growing in the relationship*.

Team B: ...any time there's a crisis, everybody pulls together like a family. But it's a functional family, in that *we function together* instead of becoming dysfunctional. We really *support*, we're kinder to each other, and give each other more slack about things. Then we go back to our usual criticism!

Team C: It wasn't so much a different style. I think *everyone really respects* everyone else's personalities in here, and *just accepts* them the way they are. I guess that's more what I was getting at. The real acceptance of the way everybody is, and that's the way it is. But yeah, we work very well as a team to solve the problems.

Team C: I think it's something that grows, that you have to just be there and watching that person and seeing what they do and *gaining respect for them*, and letting them watch you.

Team D member (1): I think part of it is approach. It goes back to what everybody's been saying here about *trust* and about *respect*. If there is an issue, it's approached on a level of "this is an issue and we can work through it". It isn't a personal attack, so there *isn't that defensiveness* that can often build up and get in the way of great teamwork. To me —
Team D member (2): There's really no need to be defensive, because you know from past experience that you've always *been supported*. Even if the rest of the team disagrees with you, there's still — nobody's ignoring you. *You still go down for coffee* and have a *good laugh*.

Team D member (1): I think you've got everybody that has expertise in different areas on this team, and differences in opinion as well. So if, let's say — I'm going to just use Nursing as an example — Nursing has an idea about somebody, and I might come from a total different angle, the quality of life angle, well, "Now that you want to do that with that person, how might that affect this part of their life?" And then it kind of brings it up for discussion, but I still *respect that discipline* for having their opinion, and by us all sharing our opinions, we can come up with a consensus. Everybody may not get their way of exactly what they want, but you *respect that the other person has their ideas* and that they've been well-thought out. It's not something that's just "oh, let's just try this". You respect them because they have these years of experience in the field, and that's what makes everybody a team. *You bring that special part to the team,* and you work together to make a goal work for that participant.
Team D member (2): Coming into the team, what I saw was that *no one discipline was valued more* than the others. Certainly, I'd been in conferences

> — not in Z, but in other places — where one discipline will say something, and then, that's it. Everyone else may have been heard, but that's what's going to happen is what that specific discipline decided. I really see that *each discipline is valued.*
>
> **Team E:** What I would actually like to say is that, in general, we *like each other,* and when you have that like of each other, then you tend to then *trust the other person's* things and actually ask about it, and what have you. Then sometime, you go ahead and do a few things.

The stories shared and responses given to the various questions by the team members revealed keywords and phrases, such as "honour", "hard-working people", "willing to alter", "relationships", "connections", "care about each other", "flexibility", "make accommodations", "understanding of each other" and "professionalism". The quotations and the list of various characteristics identified above are not a complete listing of all the identified characteristics but are provided as a representative sample of the types of characteristics that were identified. The various characteristics were then examined and compared to each other, and those relating to the same content and having similar properties subsequently were brought together to form components.

Formation of components from characteristics

Formation of components was based on looking at characteristics that had similar properties. Five components were formed: (1) respect, (2) understand each other, (3) trust, (4) levity and (5) personality factors.

Respect. This component brought together characteristics that were judged to relate to how team members considered and admired one another. "Respect" is defined as an "act of giving particular attention" (Merriam-Webster Collegiate Online Dictionary). Manion, Lorimer and Leander (1996) defined respect as "unconditionally treating people with dignity and fairness."

During the interview sessions, the participating health care team members frequently used the word "respect" when they were discussing how they interacted with each other, patients and/or families. "Respect" seemed to be present in many of the other aspects of team functioning. Team B members described how it was necessary to have "a sense of honouring the person" when interacting with patients and their families:

> Just for me, I think it's a sense of honouring the person, to be aware of that, and integrity. And the reactions are consistent with that value. It's hard to put into words.

This team also described a situation in which the daughter of a patient was very difficult to deal with and placed many demands on the health care team members. Team B members shared how they kept each other informed, ensured an accurate assessment of the situation was being made in a non-judgmental manner, and ensured that the family member's needs were being addressed appropriately.

> **Team B member (1):** I also want to hear your feedback, and it's kind of a check-in for me. I think it's both ways...So I'm kind of feeling the waters because I'm hearing some people are getting into conflict. My take on life in general — I don't always practice it, but I certainly value it — is to be nonjudgmental. I think in a situation like this it's very easy to label and judge. So yeah, I think it's two-way, too. You open the dialogue. I think we do that a lot. We just kind of open the dialogue in a hallway, in a kind of a place where it could be confidential.
> **Team B member (2):** I think it really illustrates our respect for her, though, to try to get the correct picture, to try to not just label and throw it away. Label, and tie it off, and say, "That's the way it is".
> **Team B member (3):** I would just say like you said, nonjudgmental. For me, there's a part of respect that's unconditional, that every human being is worthy, has a value. It doesn't matter if it's because of how they are or what they've done. There's a certain basic underlying respect. I, for myself, I would say it would be enhanced by things that I admire.

The team members participating in this study demonstrated an acceptance of their patients and their patients' families. The ideas of appreciating, accepting and valuing one another were described as important indicators of respect. Team members indicated that it was imperative to "recognize your own discipline's limitations, thereby valuing and respecting the other disciplines." The ability to respect each other's discipline and what each team member could contribute to the situation was an important aspect of the component "blending of expertise".

> **Team E:** I think it goes back to Y talking about respect. I think when as a team we respect each other's opinions, then we're less threatened when somebody makes a comment about some information that might be more of one of our areas than — if you don't have that feeling of respect, then it's much harder to have somebody seemingly stepping over into more of your area.
>
> **Team D:** I think we all respect each other, even if we have a difference of opinion, and it can be brought to the table and it can be brought in different situations, out. You state your opinion. You don't hold it against anybody for having an opinion different than you. When you walk out the door, you had your opportunity to say what you had to say, and it ends there. That really doesn't happen afterwards.

The "respect" component brought together characteristics that related to team members recognizing the need to value and honour the patients they served, appreciating other team members' expertise, acknowledging what each discipline could contribute, and allowing team members to express different opinions. One Team A member summarized interprofessional team functioning as "leaving your egos outside". Each team member was there to provide the best care possible for the patients, and it was expected that team members would listen to each other, share opinions and provide input to the treatment plan for the patients. The idea of needing to show or provide respect was not a new characteristic for interprofessional team functioning, however the stories shared and responses provided seemed to provide a clearer delineation of what health care team members mean when they state that "respect" is an important component of team functioning.

Understand each other. This component brought together characteristics that highlighted the need for health care team members to know and like each other.

The "understand each other" component went beyond expecting team members to have an understanding of the discipline-specific knowledge that they possessed and the role that they performed on a team, to include their ability to connect with one another, know each other on a personal level and care about each other.

> **Team B:** Well, the work we do. When we walk away from our work, it affects us in many different ways, as individuals, but as a team as well. So I thought there should be an avenue where we could share this with one another. It's become, I think, a _____looking forward to it so we can reflect on the work we do, and by doing it, it's amazing how we find out that there are issues that we have and we share them, but we don't bring them out at the outcome. This has become an avenue to do that. In doing it, I think we've got to know one another very well. I certainly have. I feel that I can be more effective, I can be myself, because my colleagues know me, and even if I have my bad days, they will still love me — that sort of thing — and respect me. And I feel the same way to the others.

To "understand" means that there is a very "thorough or technical acquaintance or expertness in the practice of" (Merriam-Webster Collegiate Online Dictionary). Team members reported they were able to function adequately because they were relaxed and comfortable with each other. Team C members drew an analogy between their team meetings and a coffee party. The idea of a coffee party intimated a certain level of familiarity with one another, casualness, and an ability to readily share ideas in a non-threatening environment. There seemed to be a sense among the team members that a properly functioning health care team consisted of members who were quick to listen rather than quick to judge. This component also brought together characteristics that related to team members developing connections or interrelationships with each other.

> **Team B:** One important thing is, when I talk about Y, is relationships. In order to have relationships, you can't see that other person as merely instrumental. You can't see them as merely a means to an end. So Y could get into that if they're all so busy that all they ever do is, say, help me with this, do this. All they're doing is tasks, no relationship forms. You need an under girding connection with the person. On top of that, you can then get them to help you

> do tasks. But aside from that, it's not a true relationship. So there's a breakdown there.

This component brought together characteristics that related to team members developing an understanding and appreciation of each other both on a professional and personal level. Interrelationships were formed among the various team members that enhanced the team's functioning and its ability to provide patient care.

Trust. This component brought together characteristics that emphasized the need for team members to have confidence in each other's knowledge and skill level, and also for them to be able to rely on the each other's character, ability and strength (Merriam-Webster Collegiate Online Dictionary). The ability to trust another person meant that there was a reciprocal faith in the other person's intentions and behaviours to work toward team goals rather than toward individual goals or agendas (Madhavan & Grover, 1998). The participating health care team members often referred to respect and trust together as if they were one aspect:

> **Team D:** I think part of it is approach. It goes back to what everybody's been saying here about trust and about respect. If there is an issue, it's approached on a level of "this is an issue and we can work through it." It isn't a personal attack, so there isn't that defensiveness that can often build up and get in the way of great teamwork.

As the investigator analyzed the original transcripts, it seemed valuable to set apart characteristics that related to "respect" from characteristics that related to "trust". "Respect" characteristics seemed to pertain to the appreciation, value or honour that was expressed for another individual. "Trust" characteristics seemed to pertain to the behavioural expectations that team members had of one another. The team members discussed how important it was to be able to "trust" the individual team member's level of competence, "trust" that others would listen to their opinion, "trust" that team members would identify actual needs for the patients, and "trust" that individual team members would abandon their own agendas in favour of the patients' or team's needs. As the team members described the characteristics associated with this component, it became obvious that one of the most important characteristics was the length of time the team members were together. The fact that team members had been together for a period of time influenced how comfortable they were sharing information and feeling free to disagree with one another:

> **Team D:** I just wanted to add, too, because I'm one of the newest members — I've been here a year and a half — we could get together every morning and talk about what each of us are doing and still not have this atmosphere. But because there's safety and there's the respect and the trust between us — and that was here when I came, and I knew that that was here by the way everyone interacted with one another and the fact that people could disagree, and it was done in a — I'm going to use the term healthy — respectful way. It wasn't attacking, it wasn't degrading, it wasn't any of those things. All those things told me that it was okay to do that.

The following quotation illustrates that team members had developed a sense of "trust" and were able to comment and provide feedback on each other's performance:

> **Team C member (1):** Trusting people enough to say whatever you've got to say, and addressing it with them. You might have more trouble addressing it with parents. When we say to each other "Are you feeling badly about that?" or "Do you think that's hard to do?" —
> **Team C member (2):** But there is that trust there, because you might tell me I'm out to lunch. [Several voices]
> **Team C member (1):** Coming from the people in this room, that would be okay.

This component brought together characteristics that highlighted the support and strength team members could draw from each other. Team members developed trust over time and were confident that each team member possessed the necessary skills and knowledge to provide patient care. The sense of trust among the team members also meant that they could accept feedback from each other and allow the patient to remain the focus.

Levity. This component brought together characteristics that related to team members spending informal time together, having fun, teasing each other, telling jokes and making humourous comments about each other.

> **Team A:** We're a fun group, and I think we — not only is there an understanding of each other's specialty, and the sense of trust and respect, but we also have fun with each other, and that just really glues everything else together in my books.

> **Team C member (1):** The other thing, I think, too, is our sense of humour. You talked about the coffee party? I think — [several voices] Yes, I think we have this sense of humour and we tease Y about some things and she just can take that, and she knows. When there is a common respect, and whenever you can. Humour is what gets us a long way, I think, in this group, more than any other groups.
> **Team C member (2):** It keeps it fun. It keeps it light.

Some of the participating team members directly identified humour as a necessary part of their team functioning, while other team members were observed to use humour during their interactions with each other. Humour was used to engage team members in discussions or dissolve tension about difficult patients and/or team situations. Some of the participating team members referred to the use of "black humour", but indicated that this type of humour had not negatively affected their team functioning as they continued to maintain a healthy balance and respect for one another:

> **Team B:** I was thinking, too, in terms of black humour: black humour can be something which is healthy that we all engage in for a bit, and then we step back from it and we go, "Oh, we're being a bit black". We also want to show respect. Black humour can perpetuate itself to the place where you walk into it, everyone is just cold, callous, and dark in a way that is not respectful. I've heard bad stories about some X wards like that when the staff are just cold. So how do you get to stop? How do you keep the appropriate amount of black humour? Again, I think it's just people who make up the group dictate that, and as long as they have a sense together of maintaining respect.

Humour also was seen as an important part of the "blending of expertise" component. A Team E member reported that one needed to have a sense of humour when other health care team members provided input or feedback about your specific discipline area.

> **Team E:** But you also use a sense of humour to allow people to come into what's traditionally your area. To be able to just think, "Okay". As you work more with people, with the particular people on our team, you'll learn what they're like. When we deal with the Zs, they're quite different in their personalities, and we've learned that if they come in and say, "Pffft! They're still walking like *that*?" then you can just laugh about it, because you know that you've done all you can, and the person hasn't listened or whatever. You also know that when that's being said, it's not being said maliciously.

The use of humour in interprofessional health care teams has received very little attention in the research literature. However, the team members in the current study certainly indicated that the use of humour was an important component of interprofessional team functioning. Further elaboration of this topic will occur in the section titled "Corroboration of theme from the literature".

Personality factors. This component brought together characteristics that related to team members recognizing that their own personalities could affect overall team functioning.

> **Team A:** Good attitude on the team, already, I find, too. You come into the team — you could probably take somebody that was really negative, put them into this team, and they would go, "Wow! I like this. I like the way you guys work". There's an interesting mix of personalities here that makes it a positive experience.

Team C members discussed how certain types of individuals would be unlikely to function effectively on a team. The types of individuals that Team C members referred to were people who were not able to adapt to the patient's or team's agenda. These individuals might be lacking confidence in their own specialty area, or might be inflexible or unwilling to adapt to the needs of the patient and his family.

There was a wide variety of people and personalities participating in this research study. Some of the participating team members were observed to be quiet or reserved during the interview sessions, while other team members were more talkative. The following quotations support the notion that personality factors contributed to team functioning:

> **Team C member (1):** I would say that the members have to be very compatible, that there has to be that — I mean, maybe it comes down to a personality thing, if you would get along with that person outside of work, sort of thing. Someone you would choose to be with — for me.
> **Team C member (2):** You're right. It's always you're supposed to get along with everyone, but you don't. That isn't how the world works. You get along with everyone, but you don't particularly [Several voices] If you don't find the person likable, your communication is different, how you interact with them is different. It's still all fine and dandy on the surface. An observer wouldn't know any different, but how you have those dynamics makes a difference, I think.

> **Team D:** Some of it is personalities of the people. As a rule, we're non-defensive people.

Team A members referred to the need for team members to leave their egos at the door. These team members seemed to recognize they were responsible for ensuring that their own personality traits would not impede or affect team functioning.

> **Team A:** I think we're pretty goal-oriented. The bottom line is the patient. We want to put on a good program. You leave your egos outside. We're all here to work to make it better.

This mix of personalities and the recognition that health care team members needed to be aware of how they may influence team functioning seemed to promote healthy teamwork. There seemed to be an "energy" within teams that was built upon keeping the patient and family as the central focus, being adaptable, being flexible and being open to working with other disciplines. It seemed that having the patient as the focus created an atmosphere in which team members ensured they listened to each other, were willing to discuss alternative options, and were flexible and positive.

The five components, "respect", "understand each other", "trust", "levity" and "personality factors" were then integrated into one theme, "social and affective aspects".

Development of theme from components

As the data was analyzed, it seemed that the importance of interpersonal characteristics was continually stressed, indicating that relationships, personalities, respect and trust were vital aspects of team functioning. The participating team members also emphasized a need to be informal, socialize, have fun and be humourous in order to promote healthy team functioning. Therefore, the label "social and affective aspects" was used to capture the emotional and interpersonal aspects of interprofessional team functioning.

One of the team members used the analogy of "marriage" to describe how their team operated and functioned:

> **Team E member (1):** I think we feel respected by the other team members, but I also think a team is a bit like a marriage. It does take some work, and sometimes you have to really think about how you're going to say something to another team member without alienating that person, because we all have gaps in what we do, and sometimes somebody needs to bring us up a little bit and help us to fill in those gaps. I don't think a good team just happens. It takes hard work, and people have to really want it to work. If you don't want to put the time into that, then it's not going to function as well.
> **Team E member (2):** Right. I think it's a strong commitment that we have here. It's about communication. It's all those things. It's a hundred percent all around. I think everyone here, each of us, brings a hundred percent to the table constantly. And you're right, it's very much like a marriage where there's negotiation and compromise and communication and there's those times that are challenges and you have to walk over those hurdles, but we do it together.
> **Team E member (1):** Then in the end, we like each other as people.
> **Team E member (3):** I think that's right.

The team members recognized that interprofessional team functioning was not based solely on the knowledge of each other's discipline and focusing on the patient's problems, but required respect, commitment, negotiation and compromise. The formation and development of strong and committed relationships among the team members seemed to be critical aspects. These types of attributes may be perceived as less quantifiable areas of practice, but it seemed the existence of strong emotional connections among the team members improved team functioning.

The participating team members expressed the importance of having knowledge about each other's area of expertise and how the team members could "blend their expertise" in order to find solutions for the various health care problems. However, it seemed equally important for interprofessional health care team members to like each other, to be able to have fun, socialize, respect and trust each other. While they may not have been mentioned as primary components of interprofessional team functioning, the components discussed above were evident throughout the transcripts and often interspersed among other comments about components necessary for team functioning.

Corroboration of theme from literature

The development of this theme, "social and affective aspects", took previous literature into account, including research findings. Personal characteristics tended to be downplayed in the literature (Drinka & Clark, 2000). When this investigator was reviewing the previous literature, there seemed to be little attention paid to how personality traits, interpersonal relationships or social interactions may affect team functioning. It seemed to have been assumed that health care providers by virtue of their educational training should be prepared to be functional team members. This assumption has led to health care team members often dismissing the importance of interpersonal, social or emotional traits.

However, these participating health care team members seemed to disagree with the notion that personality traits, interpersonal relationships or social activities were not imperative. The participating teams recognized the importance of connecting with each other and having fun. The team members managed to find ways to integrate social and informal time within their team practice. Team A members indicated that they would have lunch together or many of the team members participated together in outside charity events. Team B members have set up several different types of meeting groups outside of regular team meetings to provide members with an opportunity to discuss and reflect upon their work. Team C members found that treating their meetings like a coffee party provided opportunities to relieve tension. Team D members met on a daily basis, but they also began to meet monthly to openly discuss how the team was functioning with all of the team members. All of the team members emphasized the importance of interpersonal characteristics for team functioning.

The components of "respect" and "trust" have been discussed in the literature as important aspects of team functioning (Drinka & Clark, 2000; Manion, Lorimer & Leander, 1996). It seemed that within the previous research findings attempts were made to develop definitions for these terms, but it was unclear what actions were required to ensure that health care team members were able to demonstrate both respect and trust. Based on the data analysis process, it was found that team members needed time to know and understand each other on a personal level. This knowledge and understanding of each other then led to valuing and honouring one another. An emotional connection was fostered through being able to support one another and eventually led to the development of trust among team members. There was a certain expectation that team members would be willing to move towards patient-focused intervention approaches.

Surprisingly, the use of humour in health care team environments is a topic that has not been widely explored within the team literature. There have been investigations into the use of humour for healing or how individual health care providers used humour effectively in their practice (Boman, 1996), but very little was known about how team members used humour to increase their ability to function as a team. Yet, throughout both the observations and the interview sessions, these participating health care teams engaged in "inside comments", "jokes", "black humour", "sarcasm" and "teasing". Humour and play historically have been perceived to be frivolous and present life's experiences in less significant dimensions than the more necessary social reality of serious work (Boman, 1996). Boman investigated the effective use of humour in nursing practice. The author examined the constructions of humour in terms of being "funny", "fun-of" or "in-fun" experience. "Funny" humour was where alternative interpretations of reality were both recognized and rejected through laughter, and this form of humour served as a release from tension. "Fun-of" humour arose out of the feelings of superiority one individual or group of individuals may have over others, which resulted in the maintenance of contextually defined social inequalities. "In-fun" humour was a more difficult humour to achieve, and was often hidden or subsumed within "fun-of" or "funny" forms of humour. It was best characterized by the "glint-in-the-eye", accepting smiles, stares and glances of recognition. "Fun" humour was often spontaneous rather than calculated and occurred within everyday informal interactions. This form of humour relied on feelings of mutual recognition and acceptance between individuals that came about with the achievement of social equality. This has been called a "with-equal-other social human bond". Boman (1996) concluded that the spirit of "with-equal-other social human bond" was what ensured that a humourous incident, expression or remark was effective. It seemed that using an inoffensive form of humour such as word plays, would not guarantee an effective humourous episode, nor would an irreverent remark at just the right time automatically result in a negative experience, but it was the acceptance or bond between individuals that made humour an effective experience.

Although a specific discourse analysis was not conducted to determine the form or focus of humour used within the health care teams, it seemed that participating health care team members had developed feelings of mutual recognition and acceptance of each other that promoted humour as an effective experience. It seemed that whether a team member used humour that had universal appeal or a sarcastic remark likely did not affect the assertion that humour was used among team members to promote team functioning. The following quotation seemed to provide support for the idea that the laughter and the connection among the team members was an important aspect of team functioning regardless of the form or focus of the humour:

> **Team C member (1):** You know what I just noticed? We're laughing a whole lot. And we laughed like crazy through those slides. I wonder if laughter, if being able to do it like it is, is one of the things that helps get us through some of those tough issues. I don't know.
> **Team C member (2):** I think you're right. Because if we take ourselves so seriously — like, we made a couple of *totally* inappropriate offhand comments about something a [patient] was doing on the slide, or whatever, and just got a real kick out of it. But some people would think that was disrespectful
> **Team C member (3):** Morbid humour.
> **Team C member (4):** It was black humour, very black, very funny, all the time.
> **Team C member (1):** That laughter, though, buffers the tension, don't you think?

The participating teams seemed to be similar to the high-performance teams identified by Katzenbach and Smith (1993). These authors had interviewed hundreds of teams and identified several types of teams, such as working groups, pseudo-teams and high-performance teams. Katzenbach and Smith found that high-performance teams were deeply committed to each other in ways that went beyond civility and teamwork. This strong interpersonal commitment fuelled the team's purpose and performance and strengthened the overall team approach. The team members were committed to one another, were able to interchange skills, and were flexible. These high-performance teams were found to share the leadership role easily, have a better sense of humour and have more fun. The teams participating in this study also indicated that it was important to attend to the social and emotional aspects of team members in order to promote interprofessional team functioning. It seemed that the team members were committed to each other, were willing to take risks together, supported each other and wanted to have fun. As one team member expressed, the ability of the team to have fun was the "glue" that kept the team together.

Demonstration of social and affective aspects theme

Analyzing the data and determining what the team members were actually trying to say about their interprofessional team experience resulted in the discovery of new components and expanding upon components previously indicated in the literature. The components were based on the identified characteristics related to interpersonal characteristics of individuals, development of relationships, socialization time and having fun. These types of components generally have been ignored within the health care field. Little time has been allotted for health care providers to gain a personal understanding about the people they work side-by-side with each day. There has been limited time for members to be aware of and understand the similarities and differences that exist among the different disciplines. However, the participating health care teams recognized some of the conditions that ensured successful team functioning were related to the relationships that team members were able to develop, how individual team members treated each other, and team members' ability to remain positive. The components of "respect", "understand each other", "trust", "levity" and "personality factors" provided important insight into an interprofessional health care team and the necessary components for interprofessional health care team functioning.

The development of this theme, "social and affective aspects", was linked with the other themes. Team members were brought together to deal with difficult and complex patients and family members. The participating team members acknowledged that it was essential to keep the focus on the patient. By focusing on the patient, there was the understanding that not all team members possessed the necessary knowledge to solve the patient's problems. Therefore, the expertise needed to be blended and treatment approaches needed to be formulated. Team members needed to be willing to change treatment approaches and accept alternative ways of accomplishing patient goals. All of these activities were facilitated through knowing each other on a personal level, caring about each other, being able to accept differences in individual team members, recognizing that the various health care disciplines have much to offer and contribute, being willing to listen, being able to express dissenting opinions, expecting that all team members are present to meet the patient and team goals, and being willing to allow some frivolous time.

Again, the development of the connection or interrelationship among the team members was enhanced as the length of time the team members were together as a team increased. Dynamism was interwoven throughout this theme as team members would grow and develop in their relationships with each other, and they would deepen their understanding and awareness of each other's role and potential contributions to team functioning.

Team B members shared a story that exemplified how comfortable the team members were with each other and how they were able to accept feedback from one another without negative consequences. This story was about a team conference where a few team members disagreed with the rest of the team. These few team members felt that a patient should not be labeled with a certain diagnosis and the discussion happened to take place in front of a group of guests. It would seem that the presence of guests might change how the team members wanted to be perceived and increase the desire to avoid disagreements, but these health care team members seemed to respect each other and trust each other exclusively to the point they were willing to engage in controversial dialogue for the sake of the patient's well-being, even in front of outsiders.

> **Team B member (1):** In terms of showing respect, in terms of painting another side of the picture, so that the person who had said the label was able to see some other perspectives, too. Trying to allow that person to maintain face where they're respected and not get labelled and written off.
> **Team B member (2):** We had some guests there, and X was saying, "I'm not sure what the guests thought". I don't know what they thought, but to me, it shows that we also have a lot of respect for each other to be able to talk with the freedom to keep going in the conversation and not — have no bad feeling.
> **Team B member (1):** Yeah, it didn't digress too much. At the end of it, we walked out and we all smiled. The next day, I made eye contact with all the people in the discussion and they all smiled.

This investigator believed that a strong social bond among the team members promoted an ability to accept differences between the health science disciplines and individuals, a willingness to have faith that each team member was working toward patient and team goals, an interest in knowing each other on a personal level, a willingness to enjoy each other's company, and a willingness to engage in fun and humour. All of these social and affective aspects seemed to enhance interprofessional team functioning.

Operational and structural aspects

The theme, "operational and structural aspects", brought together characteristics and components that highlighted activities for keeping in touch, ensuring that everyone was part of the team, developing support from administrators and orchestrating the leadership role. The next sections will review the identified characteristics, formation of components and eventual integration of the multiple components to develop the theme.

Identification of characteristics from data

The quotations listed below are intended to provide the reader with an awareness and understanding of the type of responses shared during the interviews. These are a representative sample of the characteristics that were used to define the components and theme. The italicized keywords and phrases in the following quotations indicate which words were used to identify the characteristics:

> **Team A:** It gets *discussed at Rounds* and also maybe even before Rounds. I think something that really makes things work is *not just the formal meetings*, but how *available* and how likely it is. It's very easy — I know I can get L. If I can't get her on the unit, I can leave a *voice mail* and I know I'm going to get a response. Pretty much the same with everyone. We all have voice mail, so we can *leave a message and communicate that way*. If we were even closer, I think it would be even better —

Team A: I have to go back to the *leadership*. I wasn't here when it was medically run, but I can just say without a doubt in my mind, when you say "what makes it," I think it's the *leadership has allowed us to build the confidence*. The reliability and the — you just can't say enough about it.

Team B: J was kind of shocked at what was going on. Then when we stepped out of the room, J just said, "Come and talk with me for a second," and we just *talked together*. The way we talk together is illustrative of J and I's relationship of anything, and just that he said, "What was going on there?" So we realized there was something going on with the daughter of this patient, which has been one of the primary issues. We both recognized that we were having this reaction to her. We *talked about that together*, and then kind of realized we needed to take it easy with her and see what we can do to get to know her better and to help her without immediately getting into a confrontation because of the first day we'd ever met her. So that's where it started. We were talking about ourselves, so we were *talking about our awareness being passed on to everyone else*, too.

Team B: I think underlying the whole program is the *value of excellence*. I would say pretty well everybody who works here, there's very *high expectations*. People impose them upon themselves, but there are also our *external high expectations*. I think that's a shared value. Sometimes that gets us into trouble, too, because we bite off more than we can chew, but we need to support — I think we do *support each other in those standards*, to begin with, and then to try to achieve those standards. We're always begging the question of each other.

Team D: One thing about having — when I first came onto this team, I thought, "*Meetings every morning*?" But one thing that it does do for us, for one thing, we don't have ____ here. When we do, there's only so much paperwork you can do. Every morning, I know I'm going to sit in front of all these people, and if I have an issue with you, it doesn't give us a chance — we're all smart enough to know that we have to be here and work as a team. If we only met once a month, well, you can stew for quite a while or be weak. But every day, it's like, if you have an issue, *let's talk about it*. If it's not appropriate to bring up an issue I have with S here at the table, we're a *small enough team*, we can go to each other in the hallway and say, "Step inside. I have something to say to you". I've done that. [several voices] I know other people have come to me and said, "Look, I have something to say". Because of that, it helps. A lot of the air that needs to be cleared is happening one-on-one. With the team of therapists, people have enough self-esteem and responsibility to say, "Look, I've got an issue. *Let's talk*". It usually gets dealt with right there, I find.

Team E: *We do it in Rounds*. When we go and we watch the patients walk, the Xs are commenting on why the patient is doing this, and the Y will say, "Well, look at the alignment. If we can change that alignment, maybe they wouldn't have to have that — " So it's sort of — in that way, yes.

> **Team E:** And *interaction*, not just reporting, either. *Sharing, problem-solving, brainstorming...*

> **Team E***: No one tries to control and take charge*. We just *all sort of do it*. Whoever seems to be the *natural leader for each patient*, takes the natural lead.

Some other keywords and phrases that were extracted from the data included the following: "open communication", "able to question without negative consequences", "passing information along", "express opinions open and easily", "explore together", "ownership", "more autonomy", "sense of ownership", "part of team", "everybody's in this team", "automatically part of the team" and "full member of team".

Formation of components from characteristics

The various characteristics were then examined and compared with each other, and those relating to the same content and having similar properties subsequently were brought together to form components. Four components were formed: (1) keeping in touch, (2) administrative and organizational support, (3) everybody is on the team and (4) team leadership.

Keeping in touch. This component brought together identified characteristics relating to formal or informal meetings that occurred among the team members. The verbal communication that occurred among the team members was important to the success of the team's performance and their ability to provide adequate care:

> **Team B:** Verbal communication. We probably don't rely on charting as extensively, or else we complement it with a lot of verbal communication.

Some of the informal meetings happened during hallway conversations when team members would participate in integrated intervention sessions or observe other therapeutic sessions:

> **Team E:** Often time and then come to physio you guys stop me and say, "These are some of the concerns I have," and that's how we raise it. That's also the way I like to be able to pass things on to other people as well, is I walk through their department, for instance, I'll say, "This is some of the things I've been doing," so they can see something that I'm doing, some times...

The team members indicated that they scheduled formal patient team meetings or rounds on a daily or weekly basis. The teams all indicated that a regular time to connect was an essential ingredient of team functioning. This time provided an opportunity to interact, review and examine the intervention plans required to best meet the patient goals. The health care team members described a need for protected time in order to have face-to-face discussions:

> **Team B:** I think one of the things we've tried to do to help with that is the nursing rounds and the nursing report in the morning, to have that facilitated, *protected time to communicate back and forth.* One of the things we're feeling is it takes up quite a bit of time, and that's always the challenge.

As Team B members described, "rounds" were the place that team members discussed the patient's care and the approach that would be used to deal with the various issues:

> **Team B:** I think we did today at Rounds, talking about how we would deal with the patient's pain, her medication needs regarding pain. We talked about having a consistent approach and that kind of thing.

A Team E member commented that it was imperative to have the people directly involved with the patients at these team meetings in order to enhance team functioning and to be able to appropriately provide intervention services. The team members expressed that during patient team meetings there was a bringing of information to the team table and a taking away of information that was necessary for successful patient care. The team members used terms such as interactive, an opportunity to share, problem-solve and brainstorm solutions to describe these meetings.

> **Team E:** And interaction, not just reporting, either. Sharing, problem-solving, brainstorming.
>
> **Team C member (1):** I think it enhances the team business because it *makes* you talk about and makes you discuss with somebody else "am I on the right track?" I think it enhances the team discussion.
> **Team C member (2):** I think it helps the individual therapist. If you're feeling a little insecure about where you should go, what you could do, at least you have a forum to talk about it in, to bring it back to, to get either some reinforcement or "Let's take a different approach," or "This is really tough, going to talk to them about this."

Some of the teams developed additional team meetings for discussing team process issues. Generally these meetings happened on a monthly basis, but some of the team members reported that team process issues would be interspersed among the patient team meetings. As discussed previously, Team C members provided the analogy of a "coffee party" to depict how their team kept in touch with each other. This analogy provided insight into how important it was for the team members to feel comfortable and have a supportive and informal environment in which to tackle very difficult patient problems. The "coffee party" meeting seemed to have dual purposes. The first purpose was to discuss patient care needs and the second purpose was to discuss team process skills and development.

The participating interprofessional health care team members described some discomfort with trying to keep in touch with their counterparts, which often was the nursing team who were providing the continuous bedside care for the patients. The interprofessional team members recognized that they had somewhat flexible schedules and were not responsible for the same level of bedside care, which made it easier for them to meet. Team B members indicated that the interprofessional team members were now joining the Monday morning nursing report meeting in order to enhance and facilitate communication among the interprofessional team members and the nursing team members.

> **Team B:** I've always felt the challenge with nursing is that any one of us here can step into the hall for 5 or 10 minutes or 20 minutes, or slip into an office and debate an issue. Nursing responds to the urgency of the call bells, of the physical needs, the routines that are very active. They don't have the freedom to control their workday like those of us who have a little bit more flexibility, and I think that's always a big challenge in nursing. I think one of the things we've tried to do to help with that is the nursing rounds and the nursing report in the morning, to have that facilitated, protected time to communicate back and forth. One of the things we're feeling is it takes up quite a bit of time, and that's always the challenge.

One of the essential characteristics of "keeping in touch" was described as "open communication". Team members defined this form of communication as being able to express opinions, ideas and feelings without fearing a negative reaction from team members:

> **Team C:** Openness with each other. Being able to question the other person in terms of why they're doing something and not feeling threatened by that.

Another important characteristic was "listening". The team members described how important it was to listen to each other and allow everyone a moment to be heard:

> **Team D:** It's also in our *verbal and nonverbal communication.* When someone's — I mean, the listening. There's *lots of listening* going on in this room. Everybody gets their moment. There's very few times where there's a lot of other activity going on. Like right now, I'm speaking, *everybody's listening.* But that's crucial when you come to the team. *Everybody has their piece*, and we set that up in a structure by going around the table every morning. Everybody's got their moments. Some moments are longer than others, but that's important, I think, setting it up from a *structural standpoint.*

The team members participating in this study indicated that it was critical to have both informal and formal times to discuss patient concerns and team processes. They stated that it was important to protect time to meet and also feel free to approach each other throughout the day to discuss problems, issues or concerns. The ability to confer back and forth with each other seemed to strengthen the team's performance and success. Characteristics that were part of this component also included the necessary behaviours for team members to possess, such as the willingness to listen and being able to share information. While the team members indicated that "keeping in touch" with each other was important, they also indicated that it was a challenge:

> **Team B:** Communications! Does the right hand know what our left hand's doing? We do a lot. That's one of the things — there's a lot of things happening — lots, very, very diverse, from clinical to education, and busy, busy people. So I think communication is a big challenge.

However, this investigator believed that while getting together to talk, discuss and share information was a challenge, the team members recognized that there was a purpose to the meetings to "keep in touch".

> **Team D:** The fact that we're sitting here, day-to-day, not just 'cause — there's a purpose, there's a reason, and we all value that connection, I think, and it's helped build the trust between us as team members.

Administrative and organizational support. The characteristics that were used to form this component related to activities that team members organized and instituted in order to ensure that all members had equal representation on the team. One of these activities was a change to the referral process to the team. Team A and E members described the establishment of the "automatic referral" process to enhance involvement of the various disciplines. The "automatic referral" process meant that any patient who was referred to the team could automatically be seen by any of the team members. For Team E members this meant that any team member could see the patient, but for Team A members an "automatic referral" meant that the rehabilitation team members could refer to the consulting team members, such as psychology and social work, without a physician's referral.

> **Team E:** Much more autonomy in the team to be able to come together as a team and decide in the direction we were going to take, which was a lot more open and certainly — the biggest change for me is having the *automatic referral*, which means that *now that all disciplines are involved, right from the very beginning*. So it really allows us to get in there and screen out the issues and to develop, I think, a much more smoother discharge plan, particularly when it comes to some of the more complex patients and issues of housing. I even get the sense with the patients, they're much more involved now, whereas before, there was a lot more — it was directed care, and it was directed referral. So it's true. You were told if you should see the patient or not. You didn't have professional judgment to say, "I need to see that patient". I don't think that psycho-social issues were even being touched on at that particular time. So that's been a big change forward that I —
>
> **Team E:** The underlying factor basically saying that everybody's in this team. When that is *automatic*, that's the bottom line...Then you have a lot of say about whether you should be active or nonactive. You can actually *offer yourself*. I remember, when I first got on the team, I was told — I found it very difficult for a couple of years, because I don't know whether I'm supposed to see the patient or not, and then I get very awkward when they all of a sudden turn around and say, "Okay. This is the issue. Have you touched that?" I say, "Well, it was never to referred to *me*, so I haven't really looked into to it so I can answer on that". But now that I know that is *automatically part of the team*, regardless whether or not I have to be active or not with the client — depending on the client of course — then I have a role to keep track and to participate when the time comes, which is very different, I think. As I said, if the bottom line is everybody's in it, when that *automatic referral* means that *you are part of the team*, that was it. Of course, your role depends on the patient needs.
>
> **Team A:** It's an educational program, so the main component being one of education and teaching self-management — so it's set. They may come in Week 1 or 3, it doesn't matter. It's ongoing. The OT and PT, are automatic referrals are part of their program. Recreation and Social Work and Psychology are referred. Referrals are made to them on an as-needed basis. But all three of us teach classes in the three weeks. So we get to know all the patients, but we don't necessarily see them individually like OT and PT.
>
> **Team A:** ...the team has power to refer without waiting for the physicians. In the old days, it used to be that [the physician] would come in and write the order. We would never know if they would agree to it or not, but now the team has the decision-making if they need any of the three of us.

For the other three teams (Teams B, C and D), the patients and their respective physicians knew they were being referred to a team so there did not appear to be any question about which team member would assess or treat. There was the assumption that all team members would be involved unless it was not warranted.

In addition to the automatic referral process or the clear understanding that all team members would assess or treat the patients, the structure or format of the team meetings also aided the functioning of the team. A Team D member indicated that team meetings were conducted on a regular basis and each member knew they would be given an opportunity to talk, so the format promoted involvement of each team member and enhanced team functioning:

> **Team D:** Everybody has their piece, and we set that up in a *structure by going around the table* every morning. Everybody's got their moments. Some moments are longer than others, but that's important, I think, setting it up from a *structural standpoint*.

This component also highlighted team members indicating the need for administrative support. However, it seemed that the amount of support for the various teams was variable. In many cases, the team members did not state directly that they did not receive the necessary support from senior administration for further development of their team. Statements indicating a lack of funding resources for positions led this investigator to believe that the team members felt that there was limited administrative support:

> **Team C:** If we wanted to, say, take some time and really look at what's out there in terms of certain videotapes or whatever. We did it once this year, but we don't have a lot of time to do things like that. If there are certain topics we wanted to read more, getting inservice on we just don't have the FTE or time to do that.
>
> **Team A member (1):** Most all of us are on different teams, so sometimes scheduling things or meetings. We do that really well, but sometimes it's a challenge.
> **Team A member (2):** It's a challenge for the OTs to stay within their time allotment for their program. We're constantly over.
> **Team A member (3):** It's a challenge for Psychology to find the time to get to the patient. Unless they want to spend their evenings here.

Some of the team members expressed that they might not receive the support that they required from senior administration because the team members made working as a team look too easy, therefore administration tended to ignore their needs.

> **Team C:** It's a harder thing than it looks to be, and that's the drawback when you're trying to justify FTE to administration, because you need time for it.

Although some team members expressed they had insufficient support, Team B members expressed they had received considerable administrative support.

> **Team B:** I think what helped me through that was a strong sense of affirmation from my manager and ____ . When that's being said from the top down, I think everybody kind of understands that more.
>
> **Team B:** Along with that, I think we're also very fortunate to be in the institution we're in. [Health care organization] values that, and so you feel very comfortable when you're incorporating that as well when you look at what we do.

Team D members indicated they also received administrative support, as their team had been developed about four years prior to serve a particular patient population from a team perspective. These team members felt they received institutional support similar to Team B members. There appeared to be differing levels of administrative support, however some of the team members expressed that the administrators did not understand what it took to ensure good team functioning, and they believed they had to cover up what was actually good teamwork and comply with what the administrators expected from team members. Despite whether or not the team perceived itself to have strong management support, it seemed that it was the team members' commitment to team functioning that influenced the success of the team. This observation did not concur with Hyatt and Ruddy (1997) who found that groups that received the necessary support from management tended to succeed.

Again, this component brought together characteristics that related to activities that had been established to support team practice, and characteristics that related to how the team members felt about the support they received from senior administration.

Everybody is on the team. Characteristics that had properties relating to the notion that all team members were part of the team were brought together to form this component. This component was linked to the component "administrative and organizational support", as the practice of automatic referrals assisted in allowing team members to become full participating members of the team. Not all of the participating team members had benefited from the automatic referral process, yet there was the notion of everyone being on the team or being owners of the team. This notion seemed to significantly influence the interprofessional team functioning.

The following quotation referred to the automatic referral process and how this process encouraged team members to be actively involved in assessing the patient's problems, even if the problems did not relate to their specific discipline. At one point the team members did not perceive that everyone was part of the team, and this influenced their participation on the team and their ability to contribute to patient care:

> **Team E member (1):** The underlying factor basically saying that everybody's in this team. When that is automatic, that's the bottom line. Before, they say, "We only want you when we think we need you".
> **Team E member (2):** You still may not be needed for every individual,
> **Team E member (1):** Of course not.
> **Team E member (2):** but your opinion is still welcome —
> **Team E member (1):** That's right, you still part of the team
> **Team E member (2):** — even though you may not be treating that patient.
> **Team E member (1):** Then you have a lot of say about whether you should be active or non active. You can actually offer yourself. I remember, when I first got on the team, I was told — I found it very difficult for a couple of years, because I don't know whether I'm supposed to see the patient or not, and then I get very awkward when they all of a sudden turn around and say, "Okay. This is the issue. Have you touched that?" I say, "Well, it was never to referred to

> *me*, so I haven't really looked into it so I can answer on that". But now that I know that is automatically part of the team, regardless whether or not I have to be active or not with the client — depending on the client of course — then I have a role to keep track and to participate when the time comes, which is very different, I think. As I said, if the bottom line is everybody's in it, when that automatic referral means that you are part of the team, that was it. Of course, your role depends on the patient needs.
> **Team E member (3):** It feels like *our* team, *our* program. It's not one person's program, or one person's team, which is the way it used to feel like.

Team B members indicated that people were just part of the team, and when new members started they became full members of the team within a short period of time. There was no separation or segregation into the different discipline groupings. Individuals were taken on as part of the team.

> **Team B:** I think that's partly related to your question about a new team member. It's not something that has to be explicitly told, but when somebody starts working here, they're part of that. They're part of the team, they're part of the program, so they're here, and I think they pick it up that they're essential. We can actually at lunch a lot of disciplines eat together all together but often, we'll eat together.

Team A members described being on the team as having a sense of ownership, which was similar to Team E members' recognition that "it feels like our team, our program."

> **Team A:** I just realized, too, there might be more of a sense of ownership with this team. Because with the other teams, there's nurses on the unit who are involved, and yet they're not coming and meeting. The people who are mainly involved, we meet regularly, whereas on the other teams — like X has — I forget what they call it — but not all the disciplines go to that. There's two social workers, but both don't go to those meetings, so we end up feeling you're not — you hear secondhand about decisions.

From the characteristics identified, the view seemed to be held that it was important for every individual to be recognized as a participating team member who had specific information and expertise for enhancing patient care. It seemed important that team members be able to monitor their own ability to contribute. There seemed to be an overall sense of equality among the team members, and team members had an understanding that they were equal members of the team regardless of seniority or discipline. This ability to contribute and feel like part of the team was viewed as an important component of team functioning.

Team leadership. Leadership was an important component of interprofessional health care team functioning. During the interviews it was revealed that two out of the five teams had experienced a change in their leadership. Both Team A and Team E had changed from one particular medical leadership style to a coordinator position, with an individual who was not a physician filling the coordinator role. The following quotation illustrates the team members' revelation regarding the change from medical leadership to coordinator leadership:

> **Team A:** ...So there was that period of time. That would have been right around the period of time that they then also had advertised for a coordinator position. So first K's and then L's positions. So it was a gradual shift from medical leadership to coordinator leadership. There was a period of time there where we were sort of unsure as to what the future of the program was, but that's the only time I can think back to.

Prior to the change in leadership, there were feelings of discomfort and an inability of the individual members to execute their own professional roles:

> **Team E:** That's true, because I think you didn't feel comfortable — I certainly didn't feel comfortable advocating for the patient, and I don't feel that I was really allowed to execute my professional role. I was directed when it was thought I should become involved, as opposed to me saying, "I think I should become involved," or "this person requires social work". So it was like you waited for direction before you acted, as opposed — now, it's much more open and you feel like you're participating, that you're a full member of this team...

Once a change in leadership had occurred or the coordinator role had been filled, it seemed that the leadership role was received positively. The coordinator seemed accessible and more involved with the daily team practice:

> **Team A:** Coordination is important, and L is wonderful. So was K before her. We've always had strong coordinators, and I think someone has to take that responsibility. So we've been fortunate in that respect.

> **Team A:** The positive aspect is that the coordinator is always readily accessible and has a lot more day-to-day dealing with the whole group of us as well as the patients. Whereas the medical, it was once a week and very limited time frame and that sort of thing. I don't think we miss that advocacy. I think that we as a group now speak for ourselves now, and I think that's something that we needed to learn.

For Team E members, there seemed to be a shared leadership role between the non-physician and the physician. Team E members certainly indicated that the leadership provided by the physician was inclusive, and the current physician was receptive to dissenting opinions or views:

> **Team E member (1):** Under our new leadership, we have somebody who sees our total input more holistically, I think, and as a result, I think we're better able to provide services to Xs, not just defining Xs as people that are going to be fitted with Zs and then they'll be out walking. I don't know if you people agree with me --
> **Team E member (2):** Something that comes along with that, though, looking at the holistic approach, I think people on the team feel much more comfortable about presenting a dissenting opinion. Whereas with our previous [physician], there was probably a little bit of reluctance because we know what her perspective was.

Team E members reported that they definitely shared the leadership role when it came to patient care:

> **Team E:** No one tries to control and take charge. We just all sort of do it. Whoever seems to be the natural leader for each patient, takes the natural lead.

Team B members seemed to have a similar arrangement. There was a nurse coordinator who was responsible for administrative tasks and duties, but overall the team members seemed to share the leadership role for patient care. Team D members also had a nurse manager, but every interprofessional team member shared the responsibility for leading the team meetings and being the liaison person with the patient and family:

> **Team D:** Another piece is that all of us take the leadership role in this team different days. We're in a kind of a hiatus now because we've had conferences. The PTL was chairing the conference that morning, and it may be one or two people, so the chair gets spread, but it's spread around the whole table. There's no one person sitting up there.

> **Team D:** Because of that, we're all sitting around here — I've been in teams where there's one person always calling the shots in the meeting. We all have a chance, a turn in doing that, so I guess it builds a little bit more respect for that position. People sitting here recognize — we've all sat there, doing that same job, and we know sometimes it's difficult to get it rolling.

While there was a shared leadership role among the team members, there was recognition that the nurse coordinator allowed for discussion and opinions to be shared, which established what was acceptable behaviour for the other team members. The ability to share and freely exchange information with each other promoted positive interactions among the team members:

> **Team D:** Having the strong leadership and having leadership that's open, where you can discuss anything is always supported by the team. I think we all respect each other, even if we have a difference of opinion, and it can be brought to the table and it can be brought in different situations, out. You state your opinion. You don't hold it against anybody for having an opinion different than you. When you walk out the door, you had your opportunity to say what you had to say, and it ends there. That really doesn't happen afterwards.

Team C members did not have the active involvement of a physician on their team. This team had a designated coordinator, but again there was a shared responsibility among the team members. The following quotation is from the team coordinator and another team member. The coordinator (Team C member 1) was expressing that she could come in and decide the approach the team was going to take with a certain patient and family, but the involvement of the team members increased if there was shared leadership. Team C member 2 certainly confirmed that team members invested more of themselves into the team process if they could share responsibility for the decisions and provide input into how the team members would approach various issues.

> **Team C member (1):** I think it's put more on the shoulders of everybody. Yeah, I was the coordinator. If I just walked in and said, "This is how we're doing it," I mean, you might like it or not like it, but at least, you don't have to decide about it. There's more involved to be more in a shared leadership role.
>
> **Team C member (2):** And you all want to make it positive, though. If it's a consensus direction you want to go, you all want to make it work, so you invest more than just sort of being part of your idea.
>
> **Team C member (1):** Truly that, and it gets back to the respecting. Who am I to tell you how you should do something? Just 'cause you have that "coordinator" behind your name? Yeah, you're responsible to see that the job gets done, maybe, but it's not up to me to tell you how to do something or how to practice. We can talk about it, and I can give you my two cents worth, but —
>
> **Team C member (3):** Yeah, but think of clinics, how they run. Maybe programs are different than clinics that way. You're told what to do at clinics, and even if you don't agree with it, that comes from above.
>
> ***Investigator:*** *But what does that do for you as a practitioner?*
>
> **Team C member (2):** I don't think you feel as valued as a team member then. You might report your opinion, but you don't feel as valued as a team member.
>
> **Team C member (4):** It doesn't make you play very well.
>
> **Team C member (1):** No, it brings out the negative things. I'll get real passive-aggressive if you do that to me long enough. I'll just "Okay, I'll do it your way, and I'll get out of here. I'll do something else!" Causes team dysfunction.
>
> **Team C member (5):** It costs a lot and wastes a lot of time, and I don't think the patients get the best service 'cause you _________ a minute and do it your way.

Based on the identified characteristics, it was found that leadership was a shared activity not an activity that was assigned to only one individual. All of the teams appeared to have an established role for administrative-type duties and tasks, but when it came to patient care activities a shared team leadership role was preferred. Team members would share the role of chairing team meetings or be the lead person to liaise with the patient and family. This shared responsibility for making decisions about how the team would approach issues and practice ensured that each team member felt valued.

These four components, "keeping in touch", "administrative and organizational support", "everybody is on the team" and "team leadership" were then integrated into one theme, which resulted in the development of "operational and structural aspects".

Development of theme from components

When the title "operational and structural aspects" was selected, it seemed to be an overarching term for the various activities or duties that team members instituted or organized to promote team functioning. As the team members responded to the interview questions about providing interprofessional health care services, it seemed that there were certain administrative or operational activities that needed to be addressed for successful team functioning. The components that were brought together emphasized the need to organize meetings for team members, develop a structure or format for the meetings, promote full participation of team members, establish processes or activities to ensure that all team members were able to contribute to the discussion about patient care and share leadership responsibilities.

One of the most important components of this theme was "keeping in touch". This component highlighted the need for teams to structure formal opportunities for team members to meet and discuss patients. In order to effectively use the time during the team meetings, team members seemed to adhere to unwritten team rules. The team members agreed that they needed to listen to each other and be able to express opinions freely without fear of negative consequences. The need for formalized meetings was not just limited to patients, as many of the teams organized additional meetings to discuss team process issues. For some of these teams, the ability to focus strictly on team process issues was interspersed throughout their regular team meetings. Regardless whether the team process issues were discussed at separate meetings or interspersed among the patient care meetings, it seemed imperative that the team members take some time to focus on how they were doing as a team, reflect on their team practice, and address any underlying issues that might be affecting team functioning. While formal team meetings or protecting time to meet with each other was a very important aspect of team functioning, the team members also emphasized the need to connect with each other on an informal or ad hoc basis. The premise was that team members needed to confer back and forth with each other about the patient's care, and this needed to occur both inside and outside the formal team meeting room.

> **Team D:** What also helps us is when we leave this room, we all go about doing what we need to do to make it all happen, but we're always connecting. There's never a day goes by that somebody's not connecting with somebody about something many times. The connection and the trust and all the stuff we're talking about doesn't stop here. It's not like we respect everybody in this room, then we go out there and dismiss everyone. We're all there. Like S said, pitching in.

The "keeping in touch" component brought together characteristics that dealt with the structure of team meetings and the associated team member behaviours that were essential to the development of this theme.

Generally, the team members expressed that they felt supported by senior administration. There were some comments made during the interviews that alluded to a lack of understanding from senior administration regarding the stresses encountered by team members, and how difficult it was to maintain interprofessional team functioning without adequate human and financial resources. The team members revealed that adjusting the referral process could significantly affect their ability to actively participate and contribute to patient care. The overall feeling that each team member's input was greatly sought and required was an important aspect of team functioning. It was also interesting to find that shared leadership was a critical component. This component brought together characteristics that shared properties such as sharing responsibility, sharing the lead depending on patient needs, sharing decision-making, and being inclusive.

It became evident through combining these four components that all of the team members needed to believe that everyone had to be on the team. This belief could be supported through various operational and structural aspects, such as establishing formal patient meetings, encouraging informal connections, structuring team meetings to give everyone an opportunity to talk, promoting a referral process that encouraged participation from all team members, sharing responsibilities, and decision-making. This theme brought together the type of activities that needed to occur and the associated behaviours that team members needed to possess for interprofessional team functioning.

Corroboration of theme from literature

The development of this theme, "operational and structural aspects", took previous literature into account, including research findings. Reference has been made in the literature to the benefits of team members communicating with one another, leadership styles, and having internal and external organizational support (Casto & Julia, 1994; Drinka & Clark, 2000).

Communication has been described as the basis for all team functioning (Casto & Julia, 1994). However, as the participating team members described the characteristics associated with the component "keeping in touch", it became clearer that they were describing behaviours and skills that went beyond simply sending and receiving messages. Team members articulated a need to connect with each other on a formal and informal basis, confer back and forth, and freely interact with one another. Drinka and Clark (2000) described the need for interprofessional health care teams to establish internal structures, which may include determining the kind of meetings that will be held, who will lead the meetings, and acceptable mechanisms for informal communication. Drinka and Clark indicated that team members have a love-hate relationship with meetings, as some members think of them as the bane of their existence while others think of them as necessary. The participating team members concurred with this finding, as they certainly recognized the need for patient care meetings and team process meetings but also expressed the challenge in finding time to meet. However, all of the participating team members met on at least a weekly basis, and some of the team members had structured additional meetings to provide an opportunity to reflect on their practice and work towards maintaining team functioning. These types of meetings seemed to accentuate the need for team members to connect, to get to know one another and to build trusting relationships:

> **Team A:** People seem to be good communicators on this team as well. I think the respect improves the communication, but I think also there's a base level of being a good communicator to start with, an understanding of what the team does. So there's that interrelationship there that really is built already.

Drinka and Clark (2000) recommended that interprofessional health care teams develop effective relations with their organizational environment, however they suggested that the interprofessional health care team was strengthened if the relationship ties for team members were in favour of the team, as opposed to the health care organization or discipline-specific department. For the team members participating in this study, there was a strong connection to the interprofessional health care teams. In some cases the team members had a relationship with their respective discipline-specific departments, but the interprofessional health care team seemed to receive the greatest attention and priority. The five teams that participated in this study existed within external organizations that seemed to promote and encourage interdependent work. For example, within one health care organization, the interprofessional health care team members were all physically located on the unit. Team D members had specifically been brought together to form a health care team, and all of the team members were physically located within the one setting.

Leadership has been another area examined within the previous literature (Casto & Julia, 1994; Drinka & Clark, 2000). Casto and Julia emphasized that leadership may be best understood in terms of leadership functions rather than in terms of defining a specific person. It was indicated that leadership functions were actions and behaviours that could be carried out by any team member. Drinka and Clark suggested the need for establishing formal and informal leadership roles, and that the various health care providers would assume these roles as their professional and personal skills are needed in specific situations. The participating team members recognized there were certain administrative or management tasks that required attention, so these activities were usually the responsibility of the coordinator or manager. Other activities, such as leading team meetings or liaising with the patient and his family were seen as being shared activities, and the team member that was best suited for this position of leadership was selected. Team leadership was emphasized, and the notion that no one person had control was the expected norm within the participating teams.

Demonstration of theme

Analyzing the data and determining what the team members were actually trying to say about their interprofessional team experience resulted in the discovery of new components and expanded upon components previously indicated in the literature. It was found that certain activities and behaviours were required in order to promote team functioning and to ensure that all team members were fully participating members of the team. Operational and structural aspects needed to be established and formalized in order to promote interprofessional team functioning. The set of structural processes ensured that every team member knew they were valuable assets to the team practice. Team performance was affected by the structure and format of team encounters. These participating team members expressed that formal patient team meetings, formal team process meetings, and informal team member interactions were necessary structures. Team members were required to listen to each other and be able to express opinions freely without fear of negative consequences. Another structure that promoted interprofessional team functioning was the referral process. Two of the teams made structural changes or established an automatic referral process that allowed the team members to control and influence who was involved in the assessment and intervention plans, rather than a health care provider external to the team. While coordination and leadership were important aspects of this theme, the participating team members distinguished between the need for someone to be responsible for administrative tasks and the need for all of the team members to share in the responsibility of leading the team or liaising with the patient. The identified components within this theme seemed to provide a structural framework for ensuring the success of interprofessional teamwork.

Summary of results

As indicated above, five themes and fourteen key components have been identified from the data collected from the teams. In order to clarify and highlight the critical components of team functioning, the following table is provided as a summary of the results. In the first two columns of this table, findings from previous literature are compared with the findings from the current study. In the third column, the new and expanded understanding of interprofessional team functioning is outlined. It is important to note that findings from the previous literature were compiled from a number of sources, such as applied psychology, business, and sociology. The information that was discovered from these different sources did not readily appear in the health care team literature. Thus, in addition to corroborating findings in the previous literature, this study expanded the application to health care teams and provided a more detailed understanding of the critical components of interprofessional team functioning.

Table 3 Summary of results

Findings from previous literature	Findings from current study	Unique contributions from current study
• limited research indicating teams are dynamic ○ teams are dynamic; teams and its members move through phases (Drinka & Clark, 2000) ○ teams are dynamic - members are required to harness resources and adapt quickly to changing conditions (Cannon-Bowers & Salas, 1997) • as teams develop over time, they experience various stages of growth (Drinka & Clark, 2000; Manion, Lorimer & Leander,1996; Tuckman, 1965; Zenger, Musselwhite, Hurson & Perrin, 1994)	**Dynamic aspects** • components of team functioning are interwoven with one another • patient contextualizes team practice (pg. 97) ○ team members transition, change, or move depending on patient requirements (i.e., in the moment care) • identified three key components that describe dynamic nature of team work: ○ **transition** (pg. 88) ▪ team members continually grow, develop and evolve ▪ continual progression ○ **change** (pg. 89) ▪ definite alteration or transformation ○ **movement** (pg. 90) ▪ individualistic view to pluralistic perspectives ▪ consciously move into functioning as a team ▪ traditional discipline-specific practice to team practice	• there is no clear understanding provided in previous literature of how team members are able to harness their resources and adapt quickly • dynamism is a fundamental component ○ dynamism is an overarching theme that unifies the team members' knowledge, skills, attitudes, behaviours, relationships, and circumstances necessary for team functioning • strategies to ensure team functioning: ○ growth in personal and professional understanding of one another ○ able to make changes to program structure or delivery of patient care ○ provision of opportunity to understand patients' needs from many perspectives

• need to focus on common goals or purpose (Drinka & Clark, 2000; Katzenbach & Smith, 1993; Manion, Lorimer & Leander, 1996); generally patient has been excluded; researchers have not clearly defined how to achieve common goals or purpose • discipline-focused care o one dimension	**Centrality of patient** • held common belief that patients were central reason for the team's existence (pg. 98 and 100) o putting patient's agenda first (pg. 98 and 102) o focus on patient's goals (pg. 99 and 104) • comprehensive care (pg. 105, 106 and 107) o development of common goals o integration of practices o team-focused care ▪ multiple perspectives • looking beyond individual discipline-specific care to ensure that patient and family remain as the central focus	• focusing on patients and their families elicited critical components of team functioning o patients and their families seem to contextualize and elicit appropriate team member approaches o ensured team members approached their work with a commitment to patients and their families • patient's physical and mental health is often unpredictable o keeping the patient's and family's needs central allowed team members to integrate their knowledge and skills, and bring a humanistic perspective to patient care • several strategies were used to focus on patients and their families: put patients' agenda first, focus on patients' goals, develop common team goals, integrate practices, and ensure team-focused care
• most studies have referred to need for collaborative or coordinated efforts from a social processes perspective; the influence of cognitive processes has received	**Cognitive aspects** • blending of expertise o thinking beyond one's own discipline and behaviours that allow for integration of	• need to focus on interdependency that exists among team members o move beyond simply coordinating team members' efforts

limited attention (Madhavan & Grover, 1998)	knowledge and expertise (pg. 111 and 112) ▪ integration of information and knowledge (pg. 117) ▪ different approaches (pg. 118) ▪ different perspectives (pg. 119) ▪ interdependency (pg. 120) • problem solving (pg. 113, 114 and 115) ○ consistent messages (pg. 122) ○ bringing issues to team for cohesive action plan (pg. 123)	• acceptance of each others' abilities ○ tension may exist between discipline-specific practice and team practice ○ accept these different perspectives and integrate each others' practice areas to address patients' needs • movement and integration of information and skills from one team member to another • shared understanding developed among the team members ○ knew when to offer their expertise ○ knew when they were able to offer information to the patient and family even when it was outside of their particular discipline ○ developed an understanding of the importance of presenting realistic and consistent information to patients and their families • team members were able to read the clinical situation, access the necessary information quickly, and respond appropriately to the patient • patients' needs were not overlooked as number of individuals were involved in their care

• differing views regarding importance of social factors (e.g., personalities) (Katzenbach & Smith, 1993; Drinka & Clark, 2000) o previous literature has largely ignored importance of personality factors and interpersonal relationships among team members (Drinka & Clark, 2000) • minimal attention paid to use of humour to maintain team functioning	**Social and affective aspects** • respect (pg. 141, 142 and 143) o appreciating o accepting o valuing o honouring o allowing difference of opinions • understand each other (pg. 143 and 144) o know one another o like one another o relaxed o comfortable o interrelationships ▪ personal and professional basis • trust (pg. 145 and 146) o behavioural expectations team members had for one another o able to share information with one another o accept feedback o support • levity (pg. 147) o fun they have with each other is the glue that holds the team together o humour • personality factors (pg. 148 and 149) o leaving egos at door • serves to integrate the knowledge (pg. 155 and 158)	• provided a clearer understanding of the necessary social factors for team functioning • team members were able to provide an enriched understanding of some of the common terms o able to specify various aspects of "respect" ▪ pertained to how team members appreciated, accepted, valued, and honoured each other and allowed for differences among each other • fun and humour were found to be critical components of team functioning • personality factors were found to contribute greatly to the well-being of the team • the notion of knowing one another on personal level and developing connections with one another promoted interprofessional team functioning • there was a willingness to engage with each other in creative and innovative ways in order to address patient problems

• need for communication – active exchange of information between two or more team members (Dickinson & McIntyre, 1997; Julia & Thompson, 1994); limited definitions and potential for differing interpretations • some researchers indicated that teams needed established effective relationships with broader organization (Drinka & Clark, 2000; Hyatt and Ruddy, 1997; Lowe & Herranen, 1981) • leader needs to be identified (Casto & Julia, 1994; Drinka & Clark, 2000)	**Operational and structural aspects** • keeping in touch (pg. 160) ○ protected time to communicate ○ formal meetings ○ informal meetings ○ interactive, opportunity to share, problem solve and brain storm solutions ○ express opinions, ideas and feelings without negative reactions ○ need to listen • administrative & organizational support (pg. 164) ○ established referral processes • everybody is on the team (pg. 168) ○ sense of ownership • team leadership (pg. 170) ○ shared leadership role ○ shared responsibility	• the components identified served as the vehicles to accomplish team practice • used labels for the key components of team functioning that were specific and did not have several interpretations or connotations associated with the term ○ for example, 'keeping in touch' was used to describe the encounters or meetings that team members had with one another ○ it was thought that the term 'keeping in touch' was a more specific term regarding the type of interactions important for team functioning • team members identified the necessity of having the infrastructure to support team functioning ○ for example, referral processes, inclusion of team members, and shared leadership

CHAPTER FIVE: DISCUSSION AND CONCLUSIONS

The goal of this research study was to bring into view the work of several practicing health care teams. This investigator wanted to uncover a richer description, explanation and understanding of the processes that occur within interprofessional health care teams. During this study, several interprofessional health care teams were interviewed to provide their insight into teamwork, and the following research questions were addressed:

1. What components (e.g., knowledge, skills and attitudes) are evident in a practicing interprofessional health care team?
2. How do those components compare with the components described in the literature as characteristic of team functioning?

These research questions were intended to identify and describe the key components of team functioning and develop a richer description, explanation and better understanding of the interprofessional health care team construct. A clearer delineation of the knowledge, attitudes, skills, behaviours and relationships that team members needed to possess, and the circumstances that must prevail in order for a group of individuals to function as a team were uncovered.

Overview of findings

Components and themes of interprofessional health care teams

Teams have existed for years, and the topic of teams has been covered in a number of books and papers (Baldwin, 1996; Brannick, Salas & Prince, 1997; Casto & Julia, 1994; Ducanis & Golin, 1979; Drinka & Clark, 2000; Hall & Weaver, 2001; Katzenbach & Smith, 1993). Although the use of teams has been recognized as being valuable and being able to outperform individuals, the understanding of team concepts and implementation of teamwork within practice has been difficult (Baldwin, 1996; Katzenbach & Smith, 1993; Hall & Weaver, 2001). While many of the previous researchers seemed to take a different approach to defining and categorizing teamwork, there were a number of similarities between the previous literature categories and the components and themes developed during this study.

The intent of this study was to explore interprofessional teamwork and to identify and describe the key components of team functioning. The content of the health care team members' interviews was used to form components and develop themes. A strength of this study was the fact that it obtained information directly from a number of members from different health care teams in a variety of settings. Some of the teams described in previous studies have come from the health care sector, but a large number of them have been from military or business fields. Previous research with teams in health care settings has relied on representation from a limited number of disciplines (e.g., medicine, nursing, pharmacy or social work), from only one team, from teams with only two or three health care disciplines represented, or from the authors' personal knowledge of health care teams (Lowe & Herranen, 1981; Molyneux, 2001). While it may be possible to generalize and compare findings from studies dealing with military or business teams, there were differences between these types of teams and health care teams. Drinka and Clark (2000) indicated that health care teams differed from other teams by the very nature of their membership, how they defined a "consumer" and the nature of their product. The authors outlined three differences: (1) presence of physicians and other autonomous disciplines, (2) patient's relationship to the team and (3) uncertain nature of physical and mental health of patients. In addition to these differences, there are few places, particularly with business teams, where daily decisions had a direct impact on the life and death of another individual. These types of differences set health care teams apart from other teams in business, military or sports. Studies conducted with these other types of teams will help to inform the overall teamwork process, but it was imperative to look at health care teams as a separate entity and determine the critical components of their functioning.

As previously indicated, the health care team members that participated in this study often used theoretical statements about how their teams functioned. However, when they began to share stories or use analogies to describe how their team functioned, the necessary components for interprofessional team functioning became clearer. The use of stories promoted an understanding of the knowledge, skills, attitudes, relationships and circumstances that needed to occur both simultaneously and sequentially in order for the team to function. The process of analyzing the responses to the interview questions and analyzing the various stories was messy and at times extremely frustrating, but eventually the themes about interprofessional health care teams began to emerge. Some of the components discovered during the data analysis process have been mentioned or alluded to in previous research with military teams, health care teams or business teams (Brannick & Prince, 1997; Katzenbach & Smith, 1993; McIntyre & Salas, 1995). However, the team members involved with this study provided some exciting new perspectives and expanded on some of the previously identified components. These discoveries will be discussed in the next sections.

Dynamic nature of teams

One of the themes uncovered during this study was dynamism. As the team members described the components necessary for team functioning, it was apparent that one of the critical aspects was their ability to respond appropriately to patients' needs and a myriad of organizational and administrative activities at any given moment. Dynamism was an overarching theme that unified the knowledge, skills, attitudes, behaviours, relationships and circumstances necessary for interprofessional team functioning. These dimensions seemed to be evoked through the team members needing to respond to each other or to the patient and his family. The participating team members described how the changing and unpredictable nature of the patient's condition required them to be dynamic in their interactions with the patient and his family. It seemed that patients' and their families' needs elicited appropriate responses and actions from the team members. The interactions that occurred among the team members, patients, and family members fostered continual growth, development and evolution in each interprofessional health care team member. Team members participating in this study described the need to be able to grow in their relationships with one another, advance their knowledge, and make adaptations to the patient's treatment plan in order to ensure that creative solutions were being found for the patient's problems and that successful team functioning was occurring. They also described the need to change various procedures, such as the referral process, to support health care team functioning. As team members described the progression of interprofessional team functioning, it was evident that they moved from an individual perspective to a pluralistic perspective. These team members were confident in their own discipline-specific knowledge and were able to integrate knowledge from other team members, which improved their ability to provide patient care. Patients were able to receive intervention from health care providers who had an understanding of the different aspects of care that were required to improve the patient's health or ensure the patient's comfort. Interprofessional health care team functioning removed traditional discipline-specific barriers. Health care team members were able to consolidate their efforts and formulate an intervention plan that addressed the patient's needs holistically. The ability to focus on the needs of the patient and his family and to develop integrated intervention approaches rather than segregated discipline-specific approaches is one of the strengths of team functioning.

The notion that teams need to be dynamic is not new. Previous literature has indicated that teams are dynamic in nature and that team members need to harness their resources and adapt quickly to changing conditions (Cannon-Bowers & Salsa, 1997; Drinka & Clark, 2000). While previous literature findings have indicated that teams are dynamic in nature, this study found that dynamism was not limited to team tasks. Dynamism extended beyond team tasks to include how the individual team members, the team as a collective, and the patient and his family adjusted or adapted to accommodate the various needs. The findings from this study also clearly outlined three aspects of dynamism – transition, change, and movement. Team members need to be able to grow, develop, and evolve in both personal and professional dimensions. They need to be able to make changes or transform program structures or patient care strategies. Individual discipline-specific practice must move to team-based practice in order to ensure successful team functioning. The nature of teams is truly dynamic, but these health care team members identified specific activities and strategies that must occur for interprofessional team functioning.

Centrality of patient and family

This theme provided a focus for the interprofessional health care team members and provided the impetus for team functioning. When team members described the critical components of team functioning, they indicated that a fundamental aspect was keeping the patient and his family central. Although the nature of a patient's physical and mental health is often unpredictable and constantly changing, team members were able to bring a humanistic perspective to patient care by focusing on the patient and his family through integrating their knowledge and skills.

Team members needed to hold the common belief that patients were the central reason for the team's existence. This common belief was demonstrated when team members were able to put the patient's agenda first and focus on the patient's goals, which included an integration of all the different discipline goals. The development of common goals, integration of discipline-specific practices, and team-focused care ensured that team members were able to meet the patient's and family's goals. Other structures and processes such as patient meetings, knowledge of each other's roles, and having a coordinator position were necessary to ensure that the focus remained on the patient. These aspects of keeping the patient and family central fostered commitment from the team members and provided meaning to their work. The patient and his family appeared to elicit the knowledge, skills, attitudes, behaviours, relationships, and circumstances from the team members and the team as a collective which were necessary for interprofessional team functioning.

Previous literary findings have indicated the need for team members to establish a common purpose and goals for their team and to be engaged in worthwhile work (Blanchard & Bowles, 1998; Katzenbach & Smith 1993). Simply stating that team members needed to have a common purpose and goals seemed to be limiting in nature. Focusing on the patient and his family appeared to stimulate the team members to perform as a successful team. As the team members described how they functioned as an interprofessional health care team, it was apparent that the needs of the patient and family inspired the appropriate reaction and intervention approaches from the members.

Cognitive aspects

Another theme found during the analysis process was cognitive aspects. As the team members described how they practiced, it was evident that they coordinated their efforts by communicating with each other, by ensuring that everyone was aware of the various circumstances, and by allowing time for team members to share information. Essentially, these team members adhered to basic team norms or followed social processes to facilitate coordination of each member's information. However, interprofessional team functioning was found to go beyond simply coordinating individual team member's efforts. Social processes were complemented by cognitive processes. Team members were found to integrate their knowledge, blend their expertise, form interdependent relationships, and develop innovative and creative solutions for various patient problems. The team members stated that the ability to integrate their knowledge and expertise depended upon individual members having confidence in their own knowledge, skills and abilities, and they also needed to have a shared understanding of one another's role and contributions. With confidence in their own skills and an understanding of what other members could contribute, the ability to blend their expertise was possible. Team members realized there needed to be a blending of their expertise and innovative problem solving in order to achieve positive patient outcomes. This blending of expertise allowed for fluid and implicit interactions among team members. Team members crossed over into non-traditional areas of practice, had a shared understandings of others' roles, had shared past experiences, and integrated their information and knowledge in order to intervene with patients and their families. The discovery of cognitive processes provided an added dimension to understanding the critical components of interprofessional team functioning.

Limited attention has been paid to cognitive processes and their influence on team functioning. Most studies on teamwork have found that improved team performance occurred if team members coordinated their efforts through social processes, such as communication, providing opportunities to share information and trusting each other. There has been some reference in the literature determining how cognitive processes influenced social processes. The ideas of distributed knowledge and cognition (Madhavan & Grover, 1998), shared mental models (Kraiger & Wenzel, 1997) and cognitive maps (Drinka & Clark, 2000) were described in Chapter Two. These authors proposed the notion that interprofessional team functioning required team members to function together as a single unit engaged in practice together, rather than simply as a coordinated group of independent and discrete individuals. This investigator would certainly concur that interprofessional team functioning is enhanced when team members have developed a shared understanding of each others' knowledge, skills and abilities, and have been able to integrate team members' expertise.

Social and affective aspects

As the team members described the necessary components of team functioning, it became increasingly evident that respect, knowledge of each other, trust, humour, spending informal time together and personality factors were important. For many of these components, it seemed that other authors assumed people understood these components and little explanation or discussion was required, or it seemed that these terms had several interpretations, which made understanding these components extremely difficult. Many of these components have gained familiarity and popularity as important components of team functioning. However, the previous literature has not adequately described the behaviours associated with these components or how these components were demonstrated in the context of interprofessional health care teamwork.

One of the components uncovered during the data analysis process was "respect". This component had been previously mentioned in the literature as an important aspect of team functioning, but it seemed that it was assumed that everyone understood the idea of respect, therefore no further explanation was required. During the interviews, the participating team members agreed that respect was an important component of team functioning. While previous authors have suggested that respect was earned among team members and related to the free expression of ideas (Manion, Lorimer & Leander, 1996), this current study found that respect related to value and honour, appreciation of others' expertise, acceptance, and allow differing opinions to occur.

The component, "understand each other", brought together characteristics that related to team members knowing one another, liking one another, being relaxed and comfortable with one another, and forming personal and professional interrelationships. The data collected during this study confirmed the propositions that it is important to have a shared understanding of each other's role and be committed to one another (Antoniadis & Videlock, 1991; Katzenbach & Smith, 1993), but the personal connection that these team members highlighted as an important component of team functioning has not been adequately explored.

Another component that was found to have additional aspects was "trust". Generally, trust in one another referred to the emotional bonds between team members in the interpersonal or social sense (Antoniadis & Videlock, 1991). Yet, it had been suggested that trust in the social sense was only one form of trust, and that there were other forms, such as trust in team orientation and trust in team members' technical competence (Madhavan & Grover, 1998). Based on the findings of this study, trust was certainly seen as a critical component of team functioning. Trust among the team members was developed over time as members got to know one another and expressed their opinions openly and freely with each other. There seemed to be a social sense to the level of trust that existed among the team members, but there also seemed to be this notion of trust in team orientation and trust in team members' technical competence. These other aspects of trust have been described by Madhavan and Grover (1998). Drinka and Clark (2000) also mentioned two aspects of trust. They indicated that trust is central to team development, as it facilitates the development of team members' knowledge of role performance and promotes emotional bonds between members. The team members in this study referred to the need to abandon individual discipline-specific agendas or goals in favour of overall team and patient goals. They also indicated that they trusted each other to provide the necessary skills and expertise from their own discipline-specific area, and to be able to competently handle situations with or without the input from other team members. The participating team members described how they relied on each team member to provide the information and insight from their own discipline in order to adequately provide intervention services for patients and their families.

The component, "levity", has received limited attention in the teamwork literature (Farrell, Heinemann & Schmitt 1986; Katzenbach & Smith, 1993). "Levity" has been largely ignored as a critical component of team functioning, but this study provided evidence that the ability to laugh with one another, spend time together, tease one another, and have fun needed to be part of discussions regarding successful team performance. This investigator found that humour, informal socializing and having fun were critical skills and behaviours for interprofessional team functioning. Various examples of humour were revealed throughout the observation and interview sessions. Team members used humour to engage other members in discussion, release tension, allow members to laugh at themselves, or exchange in-jokes about the team as a whole.

Personality characteristics were found to influence how well the team functioned. The team members indicated that it was important to have the right mix of personalities on a team. The idea that personality factors influenced team functioning has received varying degrees of support. Katzenbach and Smith (1993) stated, "focusing on performance – not chemistry or togetherness or good communication or good feelings – shapes teams more than anything else." While Drinka and Clark (2000) indicated that personality characteristics do influence team performance, especially in the early stages of team development, the current study supported the idea that personality factors do play a part in successful team functioning and needed to be a consideration when evaluating team functioning.

An exploration of the various components of the social and affective aspects theme provided an enriched understanding of the different dimensions and the behaviours necessary for team functioning associated with these terms. The components identified and described for this theme contribute to the development of connections among the team members. These connections result in team members being able to engage with one another in order to formulate creative and innovative ways to address patient problems.

Operational and structural aspects

The components identified and described for this theme served as the infrastructure for interprofessional team functioning. This theme encompassed activities or strategies established by the various teams to serve as the vehicle for team performance and best team practice. A number of the components used to develop this theme have been mentioned previously in the literature, but additional aspects or dimensions were identified during this study.

Many of the activities that involved meeting together, discussing patient goals and intervention plans, keeping each other informed, or connecting with each other were grouped together under the component "keeping in touch". In order to provide a richer understanding of the components necessary for team functioning, it was decided to use the label "keeping in touch" for one of the components, rather than a more familiar term such as "communication". It may be argued that the component formed was similar to communication, where exchanging information and coordinating efforts were viewed as the primary functions (Cannon-Bowers & Salas, 1997; Drinka & Clark, 2000; Dickson & McIntyre, 1997; Julia & Thompson, 1994). However, as the team members described how they kept in touch with each other, there seemed to be other aspects of this component that have not been fully explored in the previous literature. This component entailed both informal and formal encounters among team members and an open communication style where team members were able to freely express their opinions and ideas. It appeared that the urgency of the need or issue dictated the type of interaction that would occur. This component encompassed team members sharing information, receiving input and confirming decisions with each other. This investigator observed that team members were constantly checking in with each other and seeking other team members' advice or opinions. This component emerged as one of the foundations of interprofessional teamwork. It was the key component that ensured team members were able to express themselves, be heard and connect about team or patient issues.

There seemed to be inconsistencies regarding the need for administrative support for successful team performance. The team members in this study reported receiving varying levels of support from the larger health care organizations, but this investigator was unclear of the specific expectations of support from the larger health care organizations that the team members had. The investigator perceived that the respective health care organizations appeared to not interfere in the team functioning unless requested. It appeared that the team members participating in this study had administrative support for their respective team functioning, however the type or level of support needed for optimal performance remained unclear. Lowe and Herranen (1981) asserted that teamwork could occur only when it was supported and sanctioned by the environment, yet Katzenbach and Smith (1993) provided a number of examples in their book where teams flourished without support from the larger organization.

The data collected in this study showed that the participating health care team members identified themselves as being part of the team. Some of the participating team members described a sense of ownership of their team. The data collected in studies of military teams seemed to provide support for this component. Successful team performance was dependent upon team members being recognized as part of the team and ensuring that procedures and processes were established to include all team members (McIntyre & Salas, 1995).

Another component, "team leadership", provided a different perspective from what previously has been reported in the literature. The participating team members involved with this study described a coordinator role position. This individual seemed to be responsible for the administrative functions of the team and was valued for his or her function on the team. For most of the other leadership functions, there seemed to be a shared leadership style or an egalitarian approach. It did not appear that discipline or status influenced the shared leadership roles. The participating team members indicated that the leader was often selected based on the needs of the patient and his family. In some of the literature there has been the call for the establishment of a formal leader for the team, or at least the establishment of formal leadership functions (Drinka & Clark 2000; Julia & Thompson, 1994).

Summary

This study provided the opportunity to identify and describe components of interprofessional health care teamwork and compared them to components described in the literature. Based on the data analysis, a number of key components were discovered and some of them were clarified and expanded.

This study was able to develop an enriched understanding of the necessary components of team functioning. This investigator was able to bring together information regarding team functioning from different sources and determine its applicability to interprofessional health care team functioning. For example, in the business literature it was proposed that in new product development, teams' knowledge was created and distributed across the team members. The idea of distributed cognition or cognitive processes had not been well developed in the health care literature. Integration of knowledge or having shared knowledge about the team and its objectives, common information about roles and behaviour, and interaction patterns among the various health care team members seemed to be evident in this study. Team members appeared to have learned the importance of sharing information, providing input, sharing past experiences and developing innovative and creative solutions in order to address the complex needs of the patient and his family. These types of activities or strategies led to the integration of knowledge, blending of expertise and creative problem solving. This study confirmed the idea that health care team members shared a wealth of information and knowledge with each other that extended beyond simply coordinating each other's efforts. The health care team members utilized the expertise and knowledge that existed among all of the members in order to have a successful health care team and provide adequate patient care services.

The notion of having a common purpose or goal also had been reported in the literature. This study certainly confirmed the need for a common purpose, but it seemed that focusing on the patient and his family was a pivotal component of team functioning. Simply stating that team members needed to have a common purpose did not provide a clear understanding of the associated expectations and behaviours, but stating that team members needed to centre their efforts on patients and their families provided the impetus for interprofessional health care team functioning. The interaction with the patient and family were the driving force, and seemed to activate the necessary components for interprofessional team functioning.

The results also suggested new components, such as "levity". This component was formed on the basis of the team members expressing a need to informally socialize, use humour and have fun. These activities or strategies have received limited attention in the previous literature, yet one team member in this study referred to these activities as the glue that kept the team together. This component emphasized the necessity for team members to have strong interpersonal relationships with each other, and it was through having fun, teasing one another and socializing that these connections were developed. This investigator believed that the component of "levity" provided the basis for the development of other components – "respect", "trust" and "understand each other".

The results confirmed that health care practitioners' actual experiences on an interprofessional health care team were very complex. It was anticipated that the identified components and themes would provide insight about how health care team members actually came to common understandings and unified decision-making to fulfill the mandate of patient and family care.

Model of Interprofessional Health Care Teams

Many of the essential components of team functioning came from various fields of study, and a comprehensive model had not been developed that assimilated this information. The current study brought together a number of these critical components in a unified model and incorporated some new components in order to represent interprofessional health care team functioning. The model will be described in the next section. It should be noted that this model does not address the temporal aspects of interprofessional team functioning. This investigator recognizes that teams will grow and evolve over time, but the teams that participated in this study had not only reached the final stages of development, they were also particularly well-functioning teams. Therefore, the data collected did not capture stages of development or the temporal aspects of team functioning.

Process and product

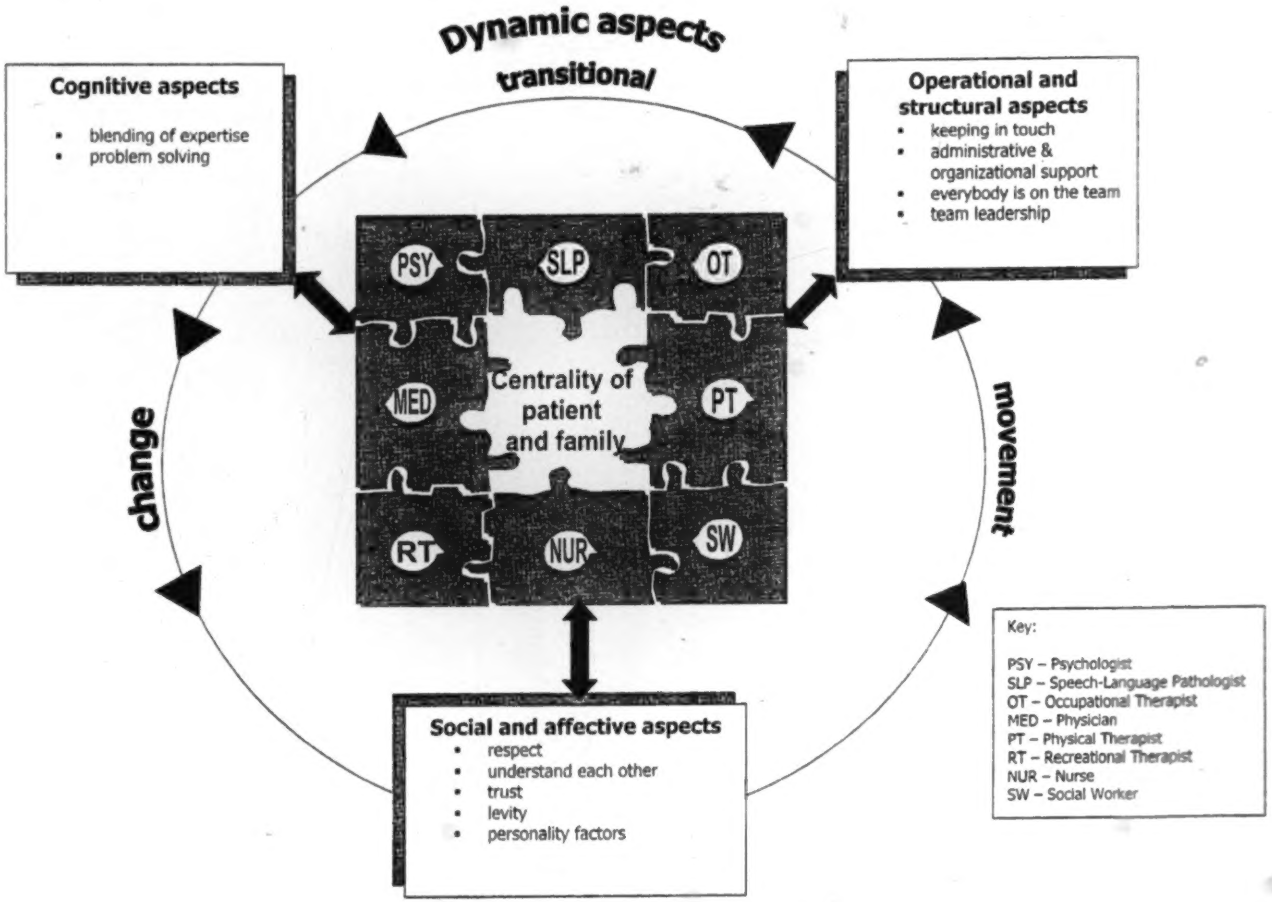
The model was developed by analyzing the content of health care team members' responses to the various questions and comparing this information to existing information. The model unified the necessary knowledge, skills and attitudes that team members needed to possess. The components and themes were assembled together into a pictorial representation of how interprofessional health care teams functioned. This investigator attempted to avoid common terms or labels, and tried to use labels closely linked to the actual data to represent the components and themes for this model.

As the team members described the necessary behaviours for interprofessional team functioning and how their team practiced in action, it became clearer that one aspect teams shared was the unpredictable nature of dealing with patients who have complex problems. It was felt that the dynamism of the team would be difficult to capture with a two dimensional model, therefore circles and bi-directional arrows were used to show the fluid, interactive nature of the key components required for interprofessional team functioning. The components and themes were also not presented in a linear fashion, as interprofessional teamwork did not occur in a sequential manner. As the team members described how their team functioned, it was apparent that many of the components and themes occurred simultaneously.

According to this model, interprofessional team functioning must take into account the patient and family, individual team members, and the collective team. The central feature of the model is the patient and his family. Puzzle pieces have been used to represent the patient and his family and the various interprofessional health care team members who may interact with the patient. As puzzle pieces have several sides that allow for interconnection with other puzzle pieces, it was thought that a puzzle piece was an appropriate way to represent the multi-faceted nature of both the patient and his family and the health care team members. This model illustrates that without the patient and his family in the centre there would be no reason for the team. From the data collected, it seemed that the driving force behind many of the other components of interprofessional team functioning was the complex needs of the patient and his family. The participating team members seemed to assign worth and value to their work based on their ability to adequately address the needs of the patient and his family.

The four other themes are interconnected with the "centrality of patient and family" theme. The "dynamic aspects" theme has been depicted as a circle that continually moves depending on the needs of the patient and his family, individual team members or the collective team. The circle crosses through all of the other themes. This visual representation of dynamism is meant to provide the reader with the understanding that interprofessional teamwork is not a static process, and requires individuals to adjust and adapt quickly to changing conditions. The participating team members from this study discussed how each patient and his family presented with different conditions and circumstances, and it was through the interaction and interdependence of the health care team members that the patient's needs could be addressed adequately. The other three themes, "cognitive aspects", "social and affective aspects" and "operational and structural aspects", have been placed in boxes that surround the central puzzle piece. Each box contains the relevant components. The theme, "cognitive aspects", pertains to the areas of knowledge development, blending of information and finding creative solutions to various problems. The theme, "social and affective aspects", pertains to the areas of social process, such as knowing each other, being committed to each other, personal interactions, trust and having fun. The "operational and structural aspects" theme has brought together components that address the need for team members to organize times to meet and discuss patient care, being able to have shared leadership, and having an egalitarian approach. Bi-directional arrows have been used to connect the three boxes to the central puzzle piece to indicate that the components and themes are interrelated. Please refer to Figure 2.

Figure 2
Model of interprofessional health care teams


Dynamic aspects
transitional
change
movement
Cognitive aspects
- blending of expertise
- problem solving
Operational and structural aspects
- keeping in touch
- administrative & organizational support
- everybody is on the team
- team leadership
Social and affective aspects
- respect
- understand each other
- trust
- levity
- personality factors
PSY
SLP
OT
MED
PT
RT
NUR
SW
Centrality of patient and family
Key:
PSY – Psychologist
SLP – Speech-Language Pathologist
OT – Occupational Therapist
MED – Physician
PT – Physical Therapist
RT – Recreational Therapist
NUR – Nurse
SW – Social Worker

Implications of findings

The study of teams and team performance measurements has received a great deal of attention in a variety of areas, such as the military, airline industry, business and health care. In many ways it goes without saying that teamwork has become a critical aspect of almost all types of organizations (Baker & Salas, 1997). Although the topic of teams has generated interest and research, there continued to be confusion about the topic. There have been only a few studies that investigated the components of team functioning and ways in which to measure these components (Dickson & McIntyre, 1997). There was a continuing need to develop and validate the knowledge base and skills required for the practice of teamwork.

During the current study, the investigator attempted to explore and describe aspects of teamwork as revealed through real-life working interprofessional health care teams. Potentially quantifiable indicators of well-functioning teams were developed. While interactions among the interprofessional health care team members were complex and patients presented with uncertainty and unpredictability, the team members were able to come to common understandings and unified decision-making if they kept the patient as their central focus. This study helped to identify and define the interprofessional health care team construct and the components that could be used to measure team performance. It was recognized that many definitions of teams and teamwork have been proposed, but it was felt that the insights offered by the team members themselves provided a framework for interprofessional health care team functioning.

What is a team?

The team members interviewed for this study helped develop an understanding of the definition of interprofessional health care team functioning and the key components. Interprofessional health care team functioning was found to require health care team members from various disciplines who were committed to focusing on the patient and his family. The idea that health care team members coordinated their activities to provide services to patients was not new. However, this study found that health care team members went beyond simply coordinating their efforts, to integrating their knowledge, blending their expertise, and discovering creative and innovative solutions to problems through responding and reacting to the needs of the patient and his family. The complex problems presented by these patients required team members to respond in sequential and simultaneous ways in order to achieve desired outcomes.

This investigator recognizes that the development of a definition is often a risky endeavor, as any definition may exclude essential elements or use terms that are open to various interpretations. Nevertheless, the purpose of this study was to clearly describe and define the construct of interprofessional team functioning, therefore the following definition is proposed:

> An interprofessional health care team is a dynamic, interacting entity comprised of individuals who focus on patients and their families, blend their expertise, develop creative and innovative solutions, develop interdependent personal and professional connections with one another, and develop various structures and processes to ensure team-based practice.

Through interviewing members of health care teams, this investigator uncovered a clearer definition of interprofessional team functioning. Many of the previous definitions of team functioning proposed that members were required to hold a common purpose, coordinate their efforts, develop common approaches and hold themselves accountable, however this definition of team functioning emphasizes the need for team members to keep the patient and family central. It seemed that when the team members focused on patient and family care, many of the key components of team functioning were elicited. This definition of interprofessional teams confirms and highlights that teamwork goes beyond coordinating activities to providing patient care. Interprofessional team functioning requires a shared understanding by team members of one another's roles and contributions and a blending of expertise in order to provide patient and family services. This definition indicates that social and affective aspects of team functioning need to be addressed. Generally components not described adequately in the literature include: personality factors, the need to develop personal connections and having fun. The team members participating in this study agreed that relationships were extremely important to team functioning, and it was necessary for team members to value one another, honour one another, know one another, be committed to one another, tease each other, tell jokes and have fun. As previously indicated, team members developed interdependent relationships based on appreciating what others could contribute and being able to trust that team members would abandon their own discipline-specific agenda in favour of the team's or patient's agenda. The ideas of keeping the patient and family central, understanding how social processes were complemented by cognitive processes, and promoting interdependence among the team members were all seen as aspects that had not been adequately explored in the previous literature. The above definition provides a clearer view of interprofessional team functioning.

What are the key components?

The key components uncovered during this study related to focusing on the patient and family, being dynamic in their intervention approaches, integrating knowledge, blending expertise, discovering creative and innovative solutions, exchanging information, developing interdependent relationships and having fun. There were a number of components that were interrelated or that resulted from interactions among the team members. For example, blending expertise required shared understanding of one another's contributions and roles. This required team members to be able to get to know each other and exchange information with each other. While blending expertise was a component of "cognitive aspects", there was interaction with components from "social and affective aspects" and "operational and structural aspects".

Interprofessional health care team functioning began with health care practitioners who had specific knowledge and expertise. These practitioners then became members of a designated team and developed an understanding of each others' roles and expectations for performance. It seemed that health care team members participating in this study developed a type of belief system that encouraged them to embrace egalitarianism, work together, discover approaches to integrate intervention, blend their expertise, and connect with one another both on a professional and personal basis. One of the key themes was "centrality of patient and family". It had been proposed previously in the literature that team members develop common purposes, goals and approaches, but there had been a lack of emphasis placed on focusing on the patient and his family (Manion, Lorimer & Leander, 1996). As the team members described how they focused on the patient and family, key components required for health care team practice became evident. The patient and family seemed to be the driving force behind stimulating the activities and strategies that were needed to provide care. The need to respond quickly and precisely to the patient and family required sequential and simultaneous activities to occur among the team members. The team members needed to have a shared understanding of each others' contributions and roles, exchange information, blend their expertise, integrate their knowledge, and develop creative solutions within a very short time period. In order for these activities to occur, team members needed to value and appreciate one another, be committed to one another and know how to laugh with one another. Throughout all of these activities there was the notion that team members, patients and their families, and the team as a collective would transition, move, or change with the situation.

As it can be seen, many of the components of successful team functioning overlapped with each other or were interrelated. The interrelation among the components made it difficult to precisely define the theoretical or operational aspects of team functioning, but it did seem that there were certain knowledge, skills and attitudes that could be identified and eventually be used to assess interprofessional team functioning. The model outlined key components that could be used as early predictors of interprofessional teams' success. In the next section, the properties of these components that could be used to assess interprofessional team functioning will be explored.

Future research: continuing the construct-oriented approach

As previously indicated, it was necessary to embark on a process of validation using a construct-oriented approach in order to understand interprofessional team functioning. Benson (1998) indicated that a strong validation program consists of three aspects: substantive, structural and external.

This study focused on the substantive aspect of validation. The first requirement was to use observations and previous research to develop a sufficient description and adequate definition of the interprofessional team functioning construct both at the theoretical and empirical level. Key components and themes have been identified and described to establish the theoretical boundaries of the construct. In addition to focusing on the boundaries of the theoretical boundaries of the construct, establishing the empirical aspects of the construct has been initiated. The empirical area is comprised of a specific set of observable variables used to measure the construct. As the components and themes have been formed and developed, observable and measurable variables have been identified. Some of the observable variables that reflect the theoretical boundaries of the interprofessional team functioning construct have been outlined in Appendix J. Phrase-like sentences have been generated to represent the various activities, strategies and behaviours that team members were found to use in order to keep the patient and family central, blend their expertise, solve problems, keep in touch, transition, change or move, develop interdependent relationships and have fun. The final step in the substantive aspect of the construct-oriented approach is to gather, analyze, and report content-related evidence. The phrases that have been developed to reflect the observable behaviours of interprofessional team functioning will need to be assessed by expert judgment ratings. The experts would judge the statements based on frequency, criticality, and relevance of the task or behaviour. This evidence will help to ensure that the operational definition of interprofessional team functioning adequately reflects the theoretical aspects of interprofessional team functioning. It is important to ensure that interprofessional team functioning has not been represented too narrowly or contains unrelated information (Benson, 1998).

The second requirement of the construct-oriented approach is the identification of the relationships among the construct of interest and other constructs (Benson, 1998; Cronbach & Meehl, 1955; Kraiger & Wenzel, 1997). This relationship is referred to as a nomological network. This network is composed of multiple concepts, measures and their interrelationships. As the components were formed and the themes developed, it became apparent that a unifying model of interprofessional health care team functioning could be formulated. The resulting model visually illustrates the interrelationships among the identified themes and components, and lists the features of the construct. The model is described earlier in this chapter. It should be noted that the model only qualifies as part of a nomological network, as it is imperative for the measures of the construct of interest to be compared to measures of other constructs. The determination of the internal consistency of the variables or convergent relationships is the focus of the structural aspect of the construct-oriented approach. Hypothesized patterns of relationships are developed. One pattern is between measures of the construct of interest and measures of other constructs that measure same or similar behaviours to the construct of interest (Benson, 1998). As it is necessary to determine the conditions under which a measure of interprofessional team functioning would and would not account for team performance, another pattern of relationships needs to be established. Another pattern is between the construct of interest, and other constructs that measure behaviours having little in common with the construct of interest. The determination of the divergent relationships of the construct of interest is accomplished during the external aspect of the constructed-oriented approach.

The third requirement of the construct-oriented approach is to test the hypotheses one at a time (Benson, 1998; Cronbach & Meehl, 1955; Kraiger & Wenzel, 1997). Kraiger and Wenzel (1997) proposed several hypotheses regarding the measurement of the shared mental models. These authors proposed that one of the team-level variables that will affect the development of shared mental models is shared efficacy. They defined shared efficacy as the degree to which team members agree upon their ability to succeed at team-related tasks. The following hypothesis was proposed:

> Prior success as a team will have a direct effect on affective components of shared mental models; teams with a prior history of success will have a higher collective efficacy than teams without prior success. (pg. 77)

The next step is to operationalize and test the specific measures of the shared mental models.

To further the understanding of interprofessional team functioning and develop an assessment instrument of team functioning, content-related evidence from experts needs to be gathered, analyzed and reported. The nomological network of the multiple concepts, measures and their interrelationships needs to be identified. The hypothesized patterns of convergent and divergent relationships among measures of the construct of interest and measures of other constructs need to be presented. Hypotheses regarding interprofessional team functioning need to be developed and then tested. These steps will lead to the development of an assessment instrument and would assist researchers and health care team members in moving beyond the conceptual stage of health care team functioning. A valid measurement instrument would lead to an improved understanding of what constitutes good and poor team performance and would also be useful in evaluating educational or training programs (Baker & Salas, 1997).

Limitations

The intent of this study was to portray how an interprofessional health care team functioned. This study had a few limitations that need to be explored. The credibility and reliability of this study were addressed through the audit process, which was discussed in Chapter Four. The full audit report is provided in Appendix I.

Some of the limitations of this study were related to the limited number of teams and their nature. The teams that participated in this study were limited to rehabilitation and palliative care teams. All five teams were deemed to be well-functioning, therefore it is difficult to know whether the characteristics and components identified in this study would be present or simply absent in a dysfunctional team, or whether other characteristics would be found. To generalize these findings to other health care teams may be inappropriate.

Another limitation deals with recall bias. The observation and two interviews of each team provided only a snapshot of how these particular health care team members practiced in action. The investigator needed to rely on the health care team members' ability to recall historical information and their ability to articulate how they practiced as a team in action and delivered patient care. Given the realities of clinical practice, these types of decisions were often made under severe time and resource constraints. Health care team members may have found it difficult to remember the contributions of each team member, the strategies being used, and the procedures being employed to deliver quality intervention services. However, some of the teams were attempting to develop these types of reflective skills that may have enhanced the results of this study. For example, Team A and E members were both part of a treatment team and a program team. At the program team meetings, team process issues were discussed. The investigator was also informed at a subsequent verification session with Team D members that the administrator for the program had decided that an expanded monthly team meeting was going to be structured to try and allow all practitioners involved with the patient population an opportunity to share their comments and frustrations about the operation of the team. It seemed that most of the teams were attempting to head towards increased reflective practice and provide opportunities for all practitioners to come together and share their insights about the strategies and working procedures of the team.

A further limitation of this study is the groupthink phenomenon, which relates to pressure upon team members to conform to the thinking of the dominant members for the sake of group harmony. This can lead to a reduction in team participation and mistakes in judgment and decision-making, as dissenting opinions and different perspectives may not be shared by some team members.

Although health care team members may have found it difficult to step back from their clinical practice during the interviews and really describe what they were doing to provide team-based intervention services, the stories and the analogies provided by the team members allowed a glimpse into the intricacies of interprofessional teamwork. It was recognized that teamwork was contextually based, and therefore it may be difficult to generalize these results. The components and themes identified were found to be common throughout the five health care teams, therefore it was felt that the findings and the model may be applicable to other teams.

It was anticipated that these components and themes would provide some general guidance regarding how to assess an already existing team, and they appear to do so.

Conclusion

The specific intent of this study was to identify and describe the components of interprofessional team functioning in a meaningful and thorough manner. A number of key components and themes were identified and used to develop a model addressing a number of key aspects of interprofessional health care team functioning. It was recognized that each team has a number of unique aspects and the manner in which the team functioned was dependent on the context, however a number of the participating team members repeated several common messages. These common messages were used to develop the components and themes for the model. Some of the identified themes and components had been described previously in the literature, however this study provided a clearer definition of teamwork and an improved understanding of the necessary components of interprofessional health care team functioning. For example, several of the components identified for the theme "social and affective aspects" were expanded upon or were newly identified components. The use of humour received limited attention in the previous literature, but the team members in this study expressed how important it was to be able to laugh with each other, tease one another, and use humourous comments to relieve tension. These aspects seemed to bring the team members together, helped the individual members build trust with each other, and helped them to feel comfortable in discussing differing opinions in order to provide patient care.

The identified components and themes were used to develop a preliminary framework for an assessment instrument in order to further the understanding of team functioning. The instrument was based on the actual characteristics and components that were identified. It was anticipated that the development of an assessment instrument would assist in validating the model and in developing practical guidance for educating, managing and training health care providers. The prototype instrument (Appendix J) is the first step in the effort to quantify the extent to which interprofessional health care teams manifest the various components revealed by this study to be necessary for team functioning.

REFERENCES

Antoniadis, A. & Videlock, J. L. (1991). In search of teamwork: a transactional approach to team functioning. Infant-Toddler Intervention: The Transdisciplinary Journal, 1(1), 157-167.

Bailey, D. B., Helsel-DeWert, M., Thiele, J. & Ware, W. B. (1983). Measuring individual participation on the interdisciplinary team. American Journal of Mental Deficiency, 88(3), 247-254.

Baker, D. P. & Salas, E. (1997). Principles for measuring teamwork. In M. Brannick, E. Salas and C. Prince (Eds.), Team performance, assessment and measurement: theory, methods, and applications (pp. 331-355). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

Baldwin, D. C. (1996). Some historical notes on interdisciplinary and interprofessional education and practice in health care in the USA. Journal of Interprofessional Care, 10(2), 173-187.

Baldwin, D. C. (1997). The case for interdisciplinary education. Speech delivered to Annual Meeting of the Association of Academic Health Centers. Indian Wells, CA. (26 September 1997).

Barker, L. M. (1922). Specialists and general practitioners in relation to teamwork in medical practice. Journal of the American Medical Association, 78(March), 76.

Barr, O. (1997). Interdisciplinary teamwork: consideration of the challenges. British Journal of Nursing, 6(17), 1005-1010.

Bassoff, B. Z. (1983). Interdisciplinary education as a facet of health care policy: the impact of attitudinal research. Journal of Allied Health, 12(4), 280-286.

Beatty, P.R. (1987). Attitudes and perceptions of nursing students toward preparation for interdisciplinary health care teams. Journal of Advanced Nursing, 12(1), 21-27.

Benson, J. (1998). Developing a strong program of construct validation: a test anxiety example. Educational Measurement: Issues and Practice, Spring, 10-22.

Bergum, V. (1994). Knowledge for ethical care. Nursing Ethics, 1(2), 71-79.

Blanchard, K. & Bowles, S. (1998). Gung Ho! New York, NY: William Morrow and Company, Inc.

Bloom, B. L. & Parad, H. J. (1976). Interdisciplinary training and interdisciplinary functioning: a survey of attitudes and practices in community mental health. American Journal of Orthopsychiatry, 46(4), 669-677.

Boman, J. (1996). Effective use of humour in nursing practice: analyzing the discourse of nurses known to make it happen. Unpublished doctoral dissertation, University of Alberta, Edmonton, AB.

Brannick, M. T. & Prince, C. (1997). An overview of team performance measurement. In Brannick, M. T., Salas, E. & Prince, C. (Eds)., Team performance assessment and measurement (3-16). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

Brannick, M. T., Salas, E. & Prince, C. (Eds.) (1997). Team performance assessment and measurement. Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

Brill, N. (1976). Teamwork: Working together in the human services. Philadelphia, PA: Lippincott.

Brown, T. M. (1982). A historical view of health care teams. In G. J. Agich (Ed.), Responsibility in health care. Boston, MA: Reidel Publishing.

Bukowski, L., Banvolonta, M., Keehn, M. & Morgan, K. (1986). Interdisciplinary roles in stroke care. Nursing Clinics of North America, 21(2), 359-374.

Cannon-Bowers, J. A. & Salas, E. (1997). A framework for developing team performance measures in training. In M. Brannick, E. Salas & C. Prince (Eds.), Team performance, assessment and measurement: theory, methods, and applications (pp. 45-62). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

Cannon-Bowers, J. A., Tannenbaum, S. I., Salas, E. & Volpe, C. E. (1995). Defining competencies and establishing team training requirements. In Guzzo, R. A. & Salas, E. (Eds.), Team effectiveness and decision making in organizations (pp. 333-380). San Francisco, CA: Jossey-Bass Publishers.

Casto, R. M. & Julia, M. C. (1994). Interprofessional care and collaborative practice. Pacific Grove, CA: Brooks/Cole Publishing Company.

Clemmer, T. P., Spuhler, V. J., Berwick, D. M. & Nolan, T. W. (1998). Cooperation: the foundation of improvement. Annals of Internal Medicine, 128(12), 1004-1009.

Cronbach, L. J. & Meehl, P. E. (1955). Construct validity in psychological tests. Psychological Bulletin, 52, 281-302.

DeSantis, L. & Ugarriza, D. N. (2000). The concept of team as used in qualitative nursing research. Western Journal of Nursing Research, 22(3), 351-373.

Dickson, T. L. & McIntyre, R. M. (1997). A conceptual framework for teamwork measurement. In M. Brannick, E. Salas & C. Prince (Eds.), Team performance, assessment and measurement: theory, methods, and applications (pp. 19-43). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

Drinka, T. J. & Clark, P. G. (2000). Health care teamwork: interdisciplinary practices and teaching. Westport, CT: Auburn House.

Ducanis, A. J. & Golin, A. K. (1979). The interdisciplinary health care team: A handbook. Germantown, MD: Aspen Systems Corporations.

Dunbar, H. (2000). Analogy. Kevin Dunbar Home page. Retrieved October 6, 2001, from http://www.psych.mcgill.ca/perpg/fac/dunbar/analogy.html.

Dyer, W. G. (1987). Team building: Issues and alternatives (2nd ed.). Reading, MA: Addison-Wesley.

Farrell, M., Heinemann, G. & Schmitt, M. (1986). Informal roles, rituals, and styles of humour in interdisciplinary health care teams: their relationship to stages of group development. International Journal of Small Group Research, 2, 143-162.

Firth-Cozens, J. (1998). Celebrating Teamwork. Quality in Health Care, 7 (Suppl), S3-S7. Retrieved August 9, 1999 from http://www.bmj.com/misc/qhc/3-7.shtml.

Gage, M. (1998). From independence to interdependence: creating synergistic healthcare teams. Journal of Nursing Administration, 28(4), 17-26.

Gardebring, S., Anderson, L., Aroskar, M., Benzie, D., Zimmaro Bliss, D., Cipolle, R. Giebink, G. S., Hallin, G., Keenan, J. & Weaver, L. (1996). Developing health care teams: a report by the academic health center task force on interdisciplinary health team development. Minneapolis, MN: University of Minnesota. Retrieved 02 Feb 2002, from http://www.ahc.umn.edu/tf/ihtd.html.

Geriatric Interdisciplinary Team Training Program. (n.d.). Retrieved March 10, 2002 from http://www.gitt.org.

Gordon, P. R., Carlson, L., Chessman, A., Kundart, M., Morahan, P. S. & Headrick, L. A. (1996). A multisite collaborative for the development of interdisciplinary education in continuous improvement for health profession students. Academic Medicine, 71(9), 973-978.

Government of Alberta (2001). Report of the Premier's Advisory Council on Health. A framework for reform. Edmonton, AB.

Government of Saskatchewan (2001). Commission on Medicare. Caring for medicare: sustaining a quality system. Regina, SK.

Guzzo, R. A. & Shea, G. P. (1992). Group performance and intergroup relations in organizations. In Dunette, M. D. & Hough, L. M. (Eds.), Handbook of industrial and organizational psychology. Palo Alto, CA: Consulting Psychologists' Press.

Hall, P. & Weaver, L. (2001). Interdisciplinary education and teamwork: a long and winding road. Medical Education, 35, 867-875.

Hammell, K. W., Carpenter, C. & Dyck, I. (2000). Using qualitative research: a practical introduction for occupational and physical therapists. London, England: Harcourt Publishers Limited.

Headrick, L. A., Knapp, M., Neuhauser, D., Gelmon, S., Norman, L., Quinn, D. & Baker, R. (1996). Working from upstream to improve health care: The IHI interdisciplinary professional education collaborative. The Joint Commission Journal of Quality Improvement, 22(3), 149-164.

Heinemann, G. D., Farrell, M. P. & Schmitt, M. H. (1994). Groupthink theory and research: implications for decision making in geriatric health care teams. Educational Gerontology, 20, 71-85.

Heinemann, G. D., Schmitt, M. H., Farrell, M. P. & Brallier, S. A. (1999). Development of an attitudes toward health care teams scale. Evaluation & the Health Professions, 22(1), 123-142.

Hojat, M. &. Herman, M. W. (1985). Developing an instrument to measure attitudes toward nurses: preliminary psychometric findings. Psychological Reports, 56, 571-579.

Hollingshead, A. B. (1998). Distributed knowledge and transactive processes in decision-making groups. In Neale, M. A., Mannix, E. A. & Gruenfeld, D. H. (Eds.), Research on managing groups and teams (pp. 103-123). Stanford, CT: JAI Press, Inc.

Horowitz, J. J. (1970). Team practice and the specialist: an introduction to interdisciplinary teamwork. Springfield, IL: Charles C. Thomas Publishers.

Hyatt, D. E. & Ruddy, T. M. (1997). An examination of the relationship between work group characteristics and performance: once more into the breech. Personnel Psychology, 50(3), 553-585.

Janosik, E. H. & Phipps, L. B. (1982). Life cycle group work in nursing. Monterey, CA: Wassworth Health Sciences Division.

Julia, M. C. & Thompson, A. (1994). Group process and interprofessional teamwork. In Casto, R. M. & Julia, M.C. (Eds.), Interprofessional care and collaborative practice (pp. 35-41). Pacific Grove, CA: Brooks/Cole Publishing Company.

Katzenbach, J. R. & Smith, D. K. (1993). The wisdom of teams. New York, NY: Harper Business Publishers.

Klein, J. T. (1990). Interdisciplinarity: history, theory, and practice. Detroit, MI: Wayne State University Press.

Kraiger, K. & Wenzel, L. H. (1997). Conceptual development and empirical evaluation of measures of shared mental models as indicators of team effectiveness. In M. Brannick, E. Salas & C. Prince (Eds.), Team performance, assessment and measurement: theory, methods, and applications (pp. 63-84). Mahwah, NJ: Lawrence Erlbaum Associates, Inc..

Krueger, R. (1994). Focus groups: a practical guide for applied research-2nd ed. Thousand Oaks, CA: SAGE Publications, Inc.

Laatsch, L. J., Milson, L. M. & Zimmer, S. E. (1986). Use of interdisciplinary education to foster familiarization among professional health professionals. Journal of Allied Health, 15(1), 33-42.

Larson, C. E. & LaFasto, F. (1989). TeamWork: What must go right/What can go wrong. Newbury, CA: Sage Publications, Inc.

Leana, C. R. (1985). A partial testing of Janis' groupthink model: effects of group cohesiveness and leader behavior on defective decision making. Journal of Management, 11, 5-17.

Lewis, R. E., Tucker, R., Tsao, H., Canaan, E., Bryant, J., Talbot, P., King, D. & Flythe, M. (1998). Improving interdisciplinary team process: a practical approach to team development. Journal of Allied Health, 27(2), 89-95.

Likert, R. (1961). New patterns of management. New York, NY: McGraw-Hill.

Lilley, S. H., Clay, M., Greer, A., Harris, J. & Cummings, H. D. (1998). Interdisciplinary rural health training for health professional students: strategies for curriculum design. Journal of Allied Health, 27(4), 208-212.

Lincoln, Y. S. & Guba, E. G. (1985). Naturalistic Inquiry. Newbury, CA: SAGE Publications, Inc.

Lowe, J. I. & Herranen, M. (1981). Understanding teamwork: another look at the concepts. Social Work in Health Care, 7(2), 1-11.

Luecht, R. M., Madsen, M. K., Taugher, M. P. & Petterson, B. J. (1990). Assessing professional perceptions: Design and validation of an interdisciplinary education perception scale. Journal of Allied Health, 19(2), 181-191.

Madhavan, R. & Grover, R. (1998). From embedded knowledge to embodied knowledge: new product development as knowledge management. Journal of Marketing, 62(October), 1-12.

Manion, J., Lorimer, W. & Leander, W. J. (1996). Team-based health care organizations: blueprint for success. Gaithersburg, MD: Aspen Publishers.

Maple, G. (1987). Early intervention: some issues in cooperative teamwork. Australian Occupational Therapy, 34, 145-151.

McGregor, D. (1960). The human side of enterprise. New York, NY: McGraw-Hill.

McIntyre, R. M. & Salas, E. (1995). Measuring and managing team performance: lessons from complex environments. In R. Guzzo & E. Salas (Eds)., Team effectiveness and decision making in organizations (pp. 9-45). San Francisco, CA: Jossey-Bass.

Merriam-Webster's Collegiate On-line Dictionary. (n.d.). Retrieved February 22, 2002, from http://www.m-w.com/cgi-bin/dictionary.

Messick, S. (1989). Validity. In Linn, R. L. (Ed.), Educational Measurement Third Edition (pp. 13-103). New York, NY: Macmillan Publishing Company.

Miccolo, M., & Spanier, A. H. (1993). Making collaborative practice work. Critical Care Clinics, 9 (3), 443-453.

Molyneux, J. (2001). Interprofessional teamworking: what makes teams work well? Journal of Interprofessional Care, 15(1), 29-35.

Morse, J. M. & Field, P. A. (1995). Qualitative research methods for health professionals (2nd edition). Thousand Oaks, CA: SAGE Publications.

Polanyi, M. (1967). The tacit dimension. Garden City, NY: Doubleday.

Rothe, J. P. (1993). Qualitative research: a practical guide. Heidelberg, ON: RCI Publications.

Rothe, J. P. (2000). Undertaking qualitative research. Edmonton, AB: University of Alberta Press.

Rubin, I. M. & Beckhard, R. (1972). Factors influencing the effectiveness of health teams. Milbank Memorial Fund Quarterly, 50 (Pt. 1), 317-335.

Rush, D. & Shelden, M. (1996). On becoming a team: a view from the field. Seminars in Speech and Language, 17(2), 131-142.

Sandelowski, M. (1986). The problem of rigor in qualitative research. Advanced Nursing Science, 8(3), 24-37.

Schmitt, M. (1982). Working together in health-care teams. In E. Janosik & L. Phipps (Eds.), Life Cycle Group Work in Nursing (pp. 179-198). Belmong, CA: Wadsworth, Inc.

Seavey, M. & McCalley, D.V. (1998). The states of water. *Water properties. Iowa Project WET Home page*. October 6, 2001 from http://www.uni.edu/~iowawet/H2OProperties.html.

Shea, G. P. & Guzzo, R. A. (1987). Group effectiveness: what really matters? Sloan Management, 3, 25-31.

Siegler, E. L., Hyer, K., Fulmer, T., Mezey, M. & (Eds.). (1998). Geriatric Interdisciplinary Team Training. New York, NY: Springer Publishing Company, Inc.

Skoloda, T. E. & Angelini, F. J. (1998). Psychometric properties of the revised interprofessional perception scale (RIPS). Paper presented at the meeting of the 20th Annual Interdisciplinary Health Care Team Conference September 1998 – Williamsburg, VA.

Slack, M. K. & McEwen, M. M. (1993). Pharmacy student participation in interdisciplinary community-based training. American Journal of Pharmaceutical Education, 57, 251-257.

Stein, L. I., Watts, D. T. & Howell, T. (1990). The doctor-nurse game revisited. New England Journal of Medicine, 322, 546-549.

Strauss, A. & Corbin, J. (1998). Basics of qualitative research: techniques and procedures for developing grounded theory (2nd edition). Thousand Oaks, CA: SAGE Publications, Inc.

Tuckman, B.W. (1965). Developmental sequence in small groups. Psychology Bulletin, 63 (2), 334-339.

Van Manen, M. (1991). The tact of teaching: the meaning of pedagogical thoughtfulness. London, ON: Althouse Press.

Webster's New Collegiate Dictionary (1980). Toronto, ON: G & C Merriam Co.

West, M. A. (1996). Reflexivity and work group effectiveness: a conceptual integration. In West, M. A., Ed., Handbook of work group psychology. Chicester, England: Wiley.

Wetherby, A. (1992). Communication and language intervention for preschool children. Paper presented at the American Speech-Language and Hearing Association Annual Conference, Buffalo, NY.

Whitehouse, F. A. (1951). Teamwork - a democracy of the professions. Exceptional children, 18, 5-52.

Zenger, J., Musselwhite, E., Hurson, K. & Perrin, C. (1994). Leading teams: mastering the new role. Homewood, IL: Business One Irwin.

Appendix A

Initial Contact Letter to Administrators/Directors

Dear ____________________;

I am writing to request your assistance in locating staff members at *[name of site/organization]* who might be willing to participate in a project on teams. I am specifically looking for rehabilitation teams that provide services for a defined population of clients. This project is part of my dissertation research and is being conducted through the Faculty of Rehabilitation Medicine at the University of Alberta. The title of the study is "Components of an interprofessional team. " It was reviewed and approved by the Health Research Ethics Administration Board (HREB) on ______________.

Over the past few years, there has been an increased emphasis on the use of health care teams to improve the delivery of health care services. It seems reasonable that bringing together a variety of health care practitioners with diverse skills and expertise and having them work together will result in improved patient service outcomes.

The purpose of this study is to examine what an interprofessional team is and to determine what the components of an interprofessional rehabilitation team are from experiential views of team members.

To begin to better understand the components of an interprofessional rehabilitation team, I would like to observe, interview, and corroborate with rehabilitation teams within the Capital Health Authority. I am asking that you approach team leaders within your organization and find out if I could call them to further explain this study. I will contact you in about one week to find out the names of potential contacts and ways of contacting them.

Thank you for your consideration of this request. If you have any questions or concerns, please feel free to call me at (780) 471-2262 ext. 2469 or (780) 492-6616 (work) (780) 471-7930 (fax), or e-mail at llutes@ualberta.ca or my co-supervisors, Dr. Paul Hagler, Department of Speech Pathology & Audiology at (780) 492-9674 or Dr. Lory Laing, Department of Public Health Sciences at (780) 492-6211.

If you have concerns about the conduct of this research study, you can contact Joan Loomis, Associate Dean of Professional Programs and Teaching at (780) 492-5989.

Sincerely,

Lynette S. J. Lutes, M.Sc.
Doctoral Candidate
Faculty of Rehabilitation Medicine
University of Alberta

Appendix B

Sample Script for Telephone Call to Potential Team Contacts

Principal Investigator: Hello, may I speak to (name of contact person for team)?

Contact Person: Replies

PI: My name is Lynette Lutes. I obtained your name and phone number from [*name of administrator*]. I am a doctoral candidate in Rehabilitation Science at the University of Alberta. I am conducting my research in the area of interprofessional teams. I need teams like the one you are a member of. I'm hoping that you and your co-workers might be interested in participating in an observation and interview about what it takes to be a functioning rehabilitation team. If you have five minutes, may I describe what I am looking for?

CP: Replies.

PI: I am defining a rehabilitation team as having at least two out of the four following rehabilitation disciplines (e.g., audiology, occupational therapy, physical therapy, and speech-language pathology) and at least three other health care disciplines. I am also interested in interviewing teams that have had at least 75% of their team members together for at least one year. Does your team meet this criteria?

CP: Replies (if no, the PI will thank him/her for their time)

PI: Would you like me to describe the study or would it be possible for me to have about 5-10 minutes at your next team meeting to discuss this study and answer any questions?

CP: Yes, it may be possible for you to come to our next team meeting, but I would like to know more about this study. What do you mean by observation and interviews?

PI: The purpose of this study is to examine interprofessional teams and determine the specific characteristics of a rehabilitation team. The first part of the study will include an observation and interview.

The observation will include an opportunity to watch a number of activities that represent the typical interactions that occur among your team members. The type of activities may include team meetings, patient case conferences, patient assessments, etc. The number of observations and the length of the observations will be dependent upon the organizational structure of your team.

Upon completion of the observations, I would like to interview your team for about one-hour. The interview can occur at *[name of organization]* if that is convenient.

I may need to come back for a second interview to ensure that I understand what was stated during the first interview. I would need about 30 minutes to verify the information.

Once I have had the opportunity to analyze the data from the observations and interviews and compare the information to what is in the literature, I would like to have the opportunity to come back and discuss the findings with your team and receive your input and feedback on the list of components that will be generated.

You may find that participation in this study allows team members an opportunity to examine your team process.

Do you think that your team may be interested in participating?

CP: No, I don't think our team will be able to accommodate this request. Then PI thanks the person for their time.

CP: Yes, I think that our team would be interested in meeting with you.

PI: When is your next team meeting and would it be possible for me to attend that meeting?

CP: Replies.

PI: Thank you again and I look forward to meeting you and your team.

Appendix C

Information Letter for Team Members

Dear Team Member;

I want to thank you for taking the time to listen to my oral presentation about my research and this proposed study. This letter will provide you with some written information about this study.

I am a doctoral candidate in Rehabilitation Science at the University of Alberta. My area of research interest is interprofessional teams. I would like to request your participation in this study entitled "Components of an interprofessional team". It was reviewed and approved by the Health Research Ethics Administration Board (HREB) in April 2000.

Over the past few years, there has been an increased emphasis on the use of health care teams to improve the delivery of health care services. It seems reasonable that bringing together a variety of health care practitioners with diverse skills and expertise and having them work together will result in improved patient service outcomes.

The purpose of this study is to examine what an interprofessional team is and to determine what the components of an interprofessional rehabilitation team are from experiential views of team members.

To begin to better understand the components of an interprofessional rehabilitation team, I would like to observe and interview rehabilitation teams within the Capital Health Authority. I would like to have the opportunity to watch a number of activities that represent the typical interactions that occur among your team members. The type of activities may include team meetings, patient case conferences, patient assessments, etc. The number of observations and the length of the observations will be dependent upon the organizational structure of your team. During the specified observation period, I will be interested in gaining a better understanding of how your team members interact with each other to provide client care. Specifically, I would like the opportunity to observe how information is shared, how people communicate with each other, etc.

Upon completion of the observations, I would like to interview your team for about one-hour. An open-ended question format would be used to promote discussion. I may need to come back for a second interview to ensure that I understand what was stated during the first interview. I would need about 30 minutes to verify the information. All interviews will be audio taped so that they can be transcribed for analysis purposes.

You will not be identified in any presentations or publications of the findings. Responses will be coded and only the investigator will have access to them. All responses and the key for the codes will be stored separately in locked cabinets for 7 years, then destroyed. There are no known adverse effects associated with participation in this study. The benefit to you as a participant may be a heightened awareness of how your team functions. You may withdraw consent and end your participation at any time.

If you would like to participate, please complete the enclosed "Participation Consent Form for Rehabilitation Team Members" and return the form in the self-addressed stamped envelope. If 100% of your team agrees to participate, I will be contacting the team designate regarding the next steps. A final report will be sent to individuals who have participated in this study. If any further analyses are carried out on the data collected for this study, further ethics approval will be sought first.

If you have any further questions regarding your participation, please call me at (780) 471-2262 ext. 2469 (work) or (780) 492-6616 (work), (780) 471-7930 (fax), or e-mail at llutes@ualberta.ca or my co-supervisors, Dr. Paul Hagler, Department of Speech Pathology & Audiology at (780) 492-9674 or Dr. Lory Laing, Department of Public Health Sciences at (780) 492-6211.

If you have concerns about the conduct of this research study, you can contact Joan Loomis, Associate Dean of Professional Programs and Teaching at (780) 492-5989.

Sincerely,

Lynette S. J. Lutes, M.Sc.
Doctoral Candidate
Faculty of Rehabilitation Medicine
University of Alberta

Appendix D

Participation Consent Form for Team Members

Part 1:

Title of Project: **Components of an interprofessional health care team**
Principal Investigator(s): Lynette Lutes, M.Sc.
Doctoral candidate
Co-Supervisor(s): Drs. Paul Hagler and Lory Laing

Part 2:

Do you understand that you have been asked to be in a research study?	Yes	No
Have you read and received a copy of the attached Information letter for team members?	Yes	No
Do you understand the benefits and risks involved in taking part in this research study?	Yes	No
Have you had an opportunity to ask questions and discuss this study?	Yes	No
Do you understand that you are free to refuse to participate or withdraw from the study at any time? You do not have to give a reason.	Yes	No
Has the issue of confidentiality been explained to you? Do you understand who will have access to the interview data?	Yes	No
Do you understand that the team interviews will be audio taped?	Yes	No
Are you willing to participate in both phases of this study (observation, interview, and review session)?	Yes	No
Are you willing to participate in only the second phase (review session)?	Yes	No

I agree to take part in this study.

Signature of Participant (Team member)

Date

Printed Name

Name of health care organization and team

Thank you for taking the time to consider this request. If you have agreed to participate in this study, please return your signed consent form in the self-addressed stamped envelope to:

Lynette Lutes
3-48 Corbett Hall
University of Alberta
Edmonton, AB
T6G 2G4

Appendix E

Observation Protocol

1. Permission to contact the specified team will be obtained from the site administrator.

2. The contact person will be telephoned and the principal investigator will propose to meet with the rehabilitation team to explain the purpose of the study and answer any questions. Consent forms will be distributed to the team members at the conclusion of the presentation. It will be requested that individual team members mail their signed consent forms to the investigator. If 100% of the team members agree to participate in this study then an observation will be scheduled.

3. The principal investigator will request to observe various activities related to service delivery for the respective patient population (i.e., team meetings, discharge planning conferences). The purpose of these observations is to have the opportunity to watch a number of activities that represent the typical interactions among the team members. The type of activities and the duration of the observations will be negotiated with each team. For example, if the team has three hour patient conferences it may only be necessary to view about an hour of the patient conference to obtain a representative sample of what occurs during these types of meetings.

4. During these proposed observations "running notes" will be taken directly in the field. If taking notes directly in the field becomes obtrusive, the principal investigator will make field notes immediately following an event in a private area.

   Observation requires much grace and self knowledge as one tries to make one's presence as unobtrusive as possible to insure the comfort of those being observed. Each observation situation is constituted as it occurs, meaning that exactly what my behaviour will be during the observation time depends very much on the contextual factors.

5. If at any time either the team member or patient is uncomfortable with the presence of the investigator, the principal investigator will withdraw from the situation.

6. After the observation period, an audio taped semi-structured interview with the team will follow as soon as possible.

Appendix F

Interview Protocol

Description of purpose of study:

Over the past few years, there has been an increased emphasis on the use of health care teams to improve the delivery of health care services. It seems reasonable that bringing together a variety of health care practitioners with diverse skills and expertise and having them work together will result in improved patient service outcomes. Unfortunately, such outcomes have never been proven to accrue. Some day we would like to assess the impact of health care teams on service delivery, but first we think it is important to understand the functioning of health care teams.

The purpose of this study is to examine what an interprofessional team is and to determine what the components of an interprofessional rehabilitation team are from the experiential views of team members.

The following questions will be used to guide the interviews with the teams:

1. Are there any disciplines represented on your team, but they are not represented at this interview?

2. How often does your team meet?

3. Can you describe a time when your team was working well together?

Probe question:	Why did it work? What was happening among team members or between team members?

4. Can you describe a time when your team was not working well together?

Probe question:	What interfered with your team working well? What happened between team members?

5. What are the benefits of a team?

6. What are the challenges of a team?

7. What are the drawbacks of a team?

8. Other comments?

Appendix G

Field Note Reporting Form

Adapted from Krueger (1994).

Information about the Interview Group

Date of interview	
Location of interview	
Number of participants	
Disciplines represented	
Investigator's name	
Other?	

Responses to questions

Q1: Are there disciplines represented on your team, but they are not represented at this interview?

Brief summary/Key points	Notable quotes

Q2: How often does your team meet?

Brief summary/Key points	Notable quotes

Q3: Can you describe a time when your team was working well together?
Probe questions: Why did it work?
What was happening among the team members or between team members?

Brief summary/Key points	Notable quotes

Q4: Can you describe a time when your team was not working well together?
Probe questions: What interfered with your team working well?
What happened between team members?

Brief summary/Key points	Notable quotes

Q5: What are the benefits of a team?

Brief summary/Key points	Notable quotes

Q6: What are the challenges of a team?

Brief summary/Key points	Notable quotes

Q7: What are the drawbacks of a team?

Brief summary/Key points	Notable quotes

Q8: Other comments?

Brief summary/Key points	Notable quotes

Appendix H

Analyzing Data

The proposed steps for analyzing the data are adapted from Rothe (1993,2000).

1. Read data from beginning to end to capture their holism.
2. Complete line-by-line examination of the data to develop codes of variables. Place the code in the margin of the transcripts.
3. Review the codes and develop categories of variables.
4. Write the category of variables on 6x4 cards.
5. Place the cards on the floor or on work table.
6. Review the transcripts again. Proceed through the pages extracting comments, ideas and tidbits of information that would fall under one of the codes or categories of variables. Write the information on the cards, document the pages of the data in which they were found, place the cards in appropriate piles. If a new category if discovered, add it to the cards. In short, group the information.
7. Look for deviations of the category of variables which may produce alternative categories or sub-categories.
8. Constantly compare new information with information you have already categorized. Ask, "How is this instance of X similar to or different from previous instances? How is X in this setting similar or different from X in another setting?"
9. Always keep thinking about the total picture and how the themes fit, or do not fit, into a total design.
10. Begin to shuffle the cards into a design, or look for data that may overlap two or more categories.
11. Re-read the data from front to back to become re-acquainted with the stream of events of which cards are pieces.
12. Begin synthesizing the categories from the data and sub-categories found within the categories.

Appendix I

Audit Report (prepared by Auditor)

An audit of the research exploring the *Components of an Interprofessional Health Care Team* was undertaken at the request of the principle investigator, Lynette Lutes. The purpose of the audit was to investigate the trustworthiness of the research.

The differences between quantitative and qualitative research necessitate that any criteria used to establish trustworthiness should respect those differences. The auditor was unable to uncover any general rules or accepted procedures for judging qualitative research. Sandelowski (1986), however did discuss the auditability of qualitative research and identified twelve points in the research process that should be examined to assure that "any reader or another researcher can follow the progressions of events in the study and understand their logic" (page 34).

With Sandelowski's discussion papers (1986 and 1993) as a guide for this report, the following documents were examined in the preparation of this report:

- research proposal: *Components of an Interprofessional Health Care Team*
- ethics submission: Health Research Ethics Board B
- reference listing of reviewed literature
- field notes made by principle investigator
- emails, memos, and other notes from the candidate's advisory committee
- transcripts of structured interviews
- coding and categories of variables formulated by the investigator

Two other actions were undertaken to fulfill the mandate of the audit. Partial transcripts of the structured interviews conducted with three rehabilitation teams were selected by the principle investigator, specific passages were highlighted, and then the auditor attempted to match the highlighted passages with a list of categories that the principle investigator had provided. This exercise provided the auditor with insight into the reasoning used by the investigator. As well, the investigator was interviewed to clarify information and verify how decisions were made.

The idea behind the research

The research being investigated stemmed from a unique idea that originated with the principle investigator, Lynette Lutes.

This research is timely and significant. There is a resurgence of interest in interprofessional practice in light of the numerous challenges facing our health care system and this research will contribute to a greater understanding of the constructs underlying rehabilitation interprofessional team functioning.

The clearly defined objectives of the research, as stated within the research proposal and again within the ethics submission, have provided a constant focus for the study. The only point of concern for the auditor is that it does not appear that all three objectives are receiving consideration. The third objective, which is to develop a prototype of a quantitative evaluation tool that includes the constructs underlying rehabilitation interprofessional team functioning, does not appear to have been addressed. While it is recognized that the constructs underlying the functioning of the teams must be identified before a prototype of a quantitative evaluation tool can be developed, there was no evidence within the reviewed documentation that work has been initiated at the time of this audit. In the absence of notes or thinking on this objective, it is not possible for the auditor to comment on the logic.

Subject recruitment and treatment

Attention to the ethics of subject recruitment and the treatment of research subjects is as important in qualitative research as it is in quantitative research. Both research methodologies require the ethical treatment of subjects prior to commencement of the study and during data collection.

The method of initial contact used by the investigator followed the plan for contact that was outlined within the ethics submission. There was no evidence of coercion of any of the members of the teams involved in the study. Formal and initial contact was made through the Administrators/Directors at sites within the Capital Health Authority which is the accepted protocol. These administrators then approached teams to identify potential research participants for the investigator. The investigator prepared a script to follow when addressing the participants.

Originally three teams were going to be involved in Phase I of the study and then three more teams were to be recruited for Phase II. Because of the positive response to initial recruitment and the willingness of the teams to continue providing input throughout the duration of the study, five teams were studied in Phase I. This resulted in a deviation from the plan that was outlined in the research proposal and the ethics submission but this did not compromise the study, it actually facilitated more timely collection of data.

Review of random sections of the transcripts of three structured interviews indicated extensive use of probing questions rather than leading questions. There was also ample evidence in the dialogue that the investigator and the subjects had a positive impact on one another. The investigator's understanding of clinical practice allowed for an insightful investigation into what the team meant by specific statements. Also, the investigator extended professional courtesy and demonstrated respect throughout the structured interviews. The time frame promised to the team prior to the commencement of interviews was strictly adhered to.

All observations and structured interviews occurred at the teams' workplace. It is important in qualitative research for the study of phenomena to occur in natural settings and with few controlling conditions (Sandelowski. 1986).

Data collection and analysis

Data collection during the study proceeded according to the plan outlined within the research proposal and the ethics submission and included observation and semi-structured interview. This plan was approved by the investigator's Advisory Committee and by Panel B of the University of Alberta's Health Ethics Review Board.

One deviation from the plan that was noted by the auditor was with respect to member checking. The investigator had planned to re-state comments made by the participants during the first interview and provide the team with an opportunity to assess the intentionality of the statements and correct them (Lincoln and Guba, 1985). This method of confirming the credibility of the data was not used. A memo within the reviewed documentation indicated that a member of the investigator's advisory committee had recommended that the teams be asked to share stories that would illustrate the comments they had made. These stories added to the investigator's understanding of teams, is consistent with accepted qualitative research guidelines (Rothe, 1993), and does not appear to have contaminated the data in any way. The stories added richness to the data that was not evident after the first interviews.

The method the investigator used for data analysis is commonly used by qualitative researchers and is supported in the literature (Rothe, 1993). Data analysis in qualitative research is an arduous task and the auditor found ample evidence that the investigator had been diligent in this area.

Data categorization and dependability

To establish the dependability and confirmability of the data, the auditor was provided with portions of transcripts where selected passages were highlighted and a listing of themes that the investigator had drawn from the data. The auditor was directed to select a category or theme that best matched the highlighted section within the original transcript. The feedback given to the investigator following this exercise was that the twenty five themes required further refinement as it was unclear how the themes and the data related to one another.

The process of matching highlighted data with proposed themes was repeated a second time with greater success. The investigator had rolled the components into five themes and different portions of the transcripts from different teams were considered. The auditor was able to follow the reasoning of the investigator using these five themes as further data reduction captured the essence of the constructs underlying rehabilitation interprofessional team functioning.

Summary of audit findings

Meticulous documentation allowed this auditor to follow the research process easily. All deviations from the plan that was laid out in the research proposal were understandable and justifiable and do not appear to have compromised the study in any way. The reasoning behind any shifts in thinking or action was evident within the documentation.

The exercise of matching data with categories allowed the auditor to confirm the reliability of the method used by the investigator when collapsing the data into categories.

The audit also confirmed that the investigator has approached the complex tasks that are part of qualitative data analysis in a very systematic, careful, and thoughtful manner. There is also ample evidence of a very scholarly approach to the subject matter.

Appendix J

Preliminary Framework for Assessment Instrument

Description of purpose:
Thank your for agreeing to review the following list of components about interprofessional health care teams. Please feel free to make any comments about the format of the questionnaire.

Discipline: ___audiologist ___nurse ___occupational therapist ___physician
___pharmacist ___physical therapist ___recreational therapist
___speech-language pathologist other:_________
Number of years in full-time practice or equivalent: ____________________
Number of years practicing on current team:________________________
Description of type of team:___________________________________
Type of Healthcare Organization:
_____Private Clinic _____Acute Care Hospital _____Rehabilitation Hospital
_____Community other:________________
How often does your team meet to discuss patients?____________________
Does your team meet to discuss team processes? ______________________
If yes, how often does your team meet?________________________

Components of Interprofessional Health Care Teams

Description:

A list of components of interprofessional health care teams has been generated from three sources of information (i.e., interviews with teams, literature findings, and investigator's own experience). These components have tried to capture what has been stated to be necessary components of a health care team.

Instructions:

a. Please think about last team meeting or patient care rounds and rate the following statements.

b. Please rate the statements based on a 5-point Likert-type scale.

c. Please rate the statements according to frequency that this statement/task occurs, relevance of task and the critical nature of the statement/task to your work on the team.

Statement	How often is this task performed? 1 never 2 3 often 4 5 always	How relevant is this statement? 1 not 2 3 very 4 5 extremely	How critical is this statement? 1 not 2 3 very 4 5 extremely
• develop an action plan quickly			
• keep patient and family central			
• patient and family given choices regarding the proposed plan of treatment			
• patient and family goals commonly developed			
• know what one another can contribute to the intervention plan			
• integrate and coordinate information shared by other team members to provide patient care			
• willing to accept comments from other team members about specific discipline			
• confer back and forth with other team members			
• ask for input from others or accept input from others			
• threatened when another team members comments on discipline specific area			
• team members remain consistent when presenting information			
• share the responsibility for developing creative and innovative solutions			
• compromise professional integrity for team harmony			
• encouraged to share alternative opinions			
competing commitments generated between individual			

practitioner's individual-specific agenda and team's agenda			
• value and honour one another			
• value and honour the patient and family members			
• know each other			
• understand each other			
• have confidence in one another's skills			
• trust that other team members will abandon their own agenda in favour of the patient's or team's agenda			
• spend informal time together (e.g., lunch, coffee breaks, hallway conversations)			
• tell jokes, tease one another, or make humourous comments			
• have fun			
• compromise their professional integrity for team harmony			
• adapt or adjust to the team's or patient's agenda			
• bring energy to the team			
• flexibility			
• keep one another informed			
• exchange information			
• team meetings are informal			
• understand each other			
• have guidelines and procedures established to ensure full participation of all team members			
• supported by senior administration			
• everybody is on the team			
• shared leadership for administrative tasks			
• shared leadership for patient care			